JOURNA TOGT 7 1947

AMERICAN VETERINARY MEDICAL ASSOCIATION

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Officers: W. A. Hagan, President; L. M. Hurt, President-Elect; J. G. Hardenbergh, Executive Secretary; R. C. Klussendorf, Assistant Executive Secretary; W. A. Young, Treasurer.

Infectious Anemia Outbreak Perils Thoroughbred Industry...

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FOREIGN LANGUAGE ABSTRACTING: Chas. H. Haasjes (Dutch); Robert E. Habel (Russian); A. G. Karlson (Scandinavian and German); K. Zakrzewski (Polish).

\$7.00 per annum Foreign \$8.00; Canada \$8.00 Single Copies 75 cts, prepaid in U. S. Published monthly at 600 8. Michigan Ave., Chicago, Ill., by the American Veterinary Medical Association. Entered as second class matter August 10, 1932, at the Post Office at Chicago 5, Illinois, under the act of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 538, act of February 28, 1925, authorized August 10, 1932. Reproduction of any part of this publication is prohibited, unless special permission is given. Permission will be given if the purpose seems justifiable and, in signed articles, if the rights or requests of author are not violated thereby. Reprints should be ordered in advance. Prices will be quoted after publication. Please send prompt notice of change of address, giving both old and new. Advise whether the change is temporary or permanent. Address all correspondence to American Veterinary Medical Association.

Journal

of the

American Veterinary Medical Association

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VOL. CXI

OCTOBER, 1947

NO. 847

The Cincinnati Session

In addition to topping all records in attendance, the Eighty-Fourth Annual Session at Cincinnati, Aug. 18-21, 1947, will long be remembered as a celebrated event. The excellence of its management by the Committee on Local Arrangements was surpassed only by the quality and scope of a program that, throughout, stood out clearly as a longer-than-usual step in the advancement of veterinary medicine. The transactions were a continuous performance of outstanding features presented with earnest dignity unmarred by showmanship or affectation. The meeting was characteristic of the pioneer folk who made the First Great West. The Association has been the honored guest of Ohio five times in eighty-four years, each one a memorable occasion. The first in Cincinnati in 1884, presided over by dapper W. B. E. Miller of New Jersey, was the Association's first venture "out west;" the second, at Cleveland in 1905, was held under the gavel of M. E. Knowles, indomitable builder of the classical livestock sanitary service of Montana; the third, at Columbus in 1920, was held under the presidency of C. A. Cary, the unchallenged architect of southern veterinary science; the fourth, at Columbus in 1936, which broke all records in attendance up to that time, was presided over by J. C. Flynn of Missouri, undisputed father of the modern small animal clinic and hospital. The fifth Ohio session at Cincinnati this year was a fitting climax to the tireless association work of B. T. Simms of Washington, D. C., whom the country's animal industry has honored with the high office of chief.

ATTENDANCE

The official registration was 2,226, distributed in the following groups:

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Exhibite																										
Guests							٠.																			54
Student																										

2,226



Dr. W. A. Hagan, the new president.

Forty-four states, the District of Columbia, Hawaii, and Puerto Rico were represented, as were our immediate neighbors, Canada and Mexico. From South America came representatives from Brazil and Peru.

The overseas countries represented were Australia, British West Indies, England, France, China, Cuba, and The Netherlands. The geographical distribution follows:

Alabama 25	New York117
Arizona 3	North Carolina 13
Arkansas 7	North Dakota 7
California 35	Ohio503
Colorado 10	Oklahoma 13
Connecticut 20	Oregon 3
Delaware 1	Pennsylvania 95
District of	Rhode Island 7
Columbia 33	South Carolina 4
Florida 33	South Dakota 8
Georgia 27	Tennessee 36
Illinois199	Texas 34
Indiana226	Utah 6
Iowa 76	Vermont 6
Kansas 49	Virginia 30
Kentucky 84	Washington 9
Louisiana 6	West Virginia 25
Maine 1	Wisconsin 44
Maryland 29	Wyoming 6
Massachusetts 26	Canada 31
Michigan122	Australia 1
Minnesota 42	Brazil 1
Mississippi 19	British West Indies 3
Missouri 67	China 1
Nebraska 18	Cuba 8
Nevada 1	England 1
New Jersey 48	France 1

Hawaii	1	Peru 1
Mexico	1	Puerto Rico
The Netherlands	1	

GREETINGS FROM OTHER COUNTRIES

Official greetings from veterinary associations in other lands were presented at the opening session.

Dr. Jacob Jansen, Utrecht, who participated in the program, greeted the delegates in this way, "On behalf of the Dutch Veterinary Medical Association I wish you a very successful congress. Our Dutch association greatly values your invitation to be with you. You know how much The Netherlands have suffered during the war -but, our vitality is unbroken. We hope to be able to contribute to the advancement of veterinary science in a measure as you do. The motto of Dutch veterinarians is Animalium hominumque saluti (For the Welfare of Animals and Men)."

Dr. A. Malaga-Alba, past-president of the Peruvian Veterinary Medical Association, represented the veterinarians of Peru and brought warm greetings from them to



The Committee on Local Arrangements—84th Annual Convention Cincinnati-Aug. 18-21, 1947

Front row (left to right)—Miss Virginia Huge, secretary; Mrs. R. G. Kerans, co-chairman, Women's Activities; Dr. R. G. Kerans, Vice General Chairman; Dr. A. G. Madden, Jr., General Chairman; Dr. J. L. Jones, General Secretary; Mrs. A. R. Theobald, co-chairman, Women's Activities; Dr. A. R. Theobald, Reception and Hospitality; Dr. Sol G. Stephan, Hotels and Housing.

Back row (left to right)—Dr. G. C. Lewis, Garages and Airports; Dr. J. F. Gest, Registration and Information; Dr. C. A. Pleuger, Publicity and Public Relations; Col. S. C. Dildine (retired), Military Activities; Dr. J. A. Winkler, Entertainment; Dr. S. W. Stout, Exhibits; Dr. B. W. Bernard, Motion Pictures; Dr. J. G. Hardenbergh, AVMA Executive Secretary.

(Dr. J. H. Batsche, chairman of the Committee on Macting Rooms and Equipment was not present

(Dr. J. H. Batsche, chairman of the Committee on Meeting Rooms and Equipment, was not present when the picture was taken.)

their fellow practitioners in America. The dean of the veterinary faculty of San Marcos University at Lima cabled his congratulations through Dr. Malaga to Dean W. A. Hagan on his installation as president of the American Veterinary Medical Association.

Dr. Virginia Buff D'Apice, an active member of the Veterinary Medical Society of Sao Paulo, Brazil, presented the compliments of this organization "to all who participate in the first annual meeting of woman veterinarians and to all members of the eighty-fourth reunion of the American Veterinary Medical Association." She also brought wishes for great success to the convention and fraternal greetings from the veterinarians of Sao Paulo to their colleagues in North America.

Dr. Ortiz Arrafat, president of the Cuban National Veterinary Doctors' College, sent the following telegram to President Simms: "To your Excellency, best wishes for the success of your congress from me personally and from the Cuban doctors of veterinary medicine."

Dr. A. K. Sutherland was an official representative of the Australian Veterinary Medical Association at Cincinnati, although he is now located at Urbana, Ill.

THE PRESIDENT-ELECT

Dr. L. M. Hurt, Los Angeles, becomes president-elect following forty-three years of devotion to the advancement of veterinary medicine. He has intimate knowledge of the history and the problems of the Association as a result of service on the Executive Board.

Dr. Hurt was born near Kellog, Iowa, Nov. 5, 1880. He attended Newton elementary and high schools, and graduated from Iowa State College in 1904, receiving the degree of doctor of veterinary medicine. Immediately after graduation, he entered the federal Bureau of Animal Industry but soon returned to Ames to join the faculty as assistant professor of physiology in the Division of Veterinary Medicine.

During his three years of teaching at Ames, he did postgraduate work leading to a degree of bachelor of science in agriculture. He retained connection with the Bureau during these years, working on special details and assignments. In 1907, he assumed the duties of experiment station

veterinarian and professor of veterinary science at Michigan State College.

In 1912, Dr. Hurt, with his family, moved to Pasadena to accept the position of city veterinarian, shortly thereafter assuming the duties of livestock inspector of Los Angeles County. In 1924, he was authorized to organize a livestock department in



Dr. L. M. Hurt, the president-elect.

charge of livestock disease control and sanitation in all domestic animals; meat inspection, garbage feeding operations, sales, feed and stockyards operation, poultry, rabbit, and fur animal disease investigations. To adequately cover this work, Dr. Hurt heads a department of 30 people,—15 veterinarians, office and laboratory personnel, a quarantine officer, cleaning and disinfection crews, and a sufficient number of guards and lay inspectors.

His department collaborates with federal and state bureaus of animal industry in controlling major outbreaks of contagious diseases, and with the State Department of Agriculture in supplying personnel for the Poultry Pathological Laboratory. Research and experimental work directed toward poultry disease control has been conducted at the Poultry Demonstration Plant, near Pomona, Calif. This is an industry-supported institution wherein 3,000 birds are maintained for experimental purposes. For the owners of rabbits, fox,

chinchillas, mink, etc., in the vicinity of Los Angeles, laboratory facilities are maintained in connection with his office.

Dr. Hurt has been active in veterinary association work, having served in various capacities including president of the Southern California and California State Veterinary Medical Associations. He represented the sixth district of the American Veterinary Medical Association as a member of the Executive Board for two terms (1931-36 and 1943-46).

He is a member of several scientific, professional, and fraternal associations and groups interested in public administration.

During the life of the Department a full membership in the United States Livestock Sanitary Association has been carried, and in representing the county at the annual and special meetings of this Association he serves as a member of the Executive Committee. His position also entitles him to hold a membership in the National Assembly of Chief Livestock Sanitary Officials, and in the American Association of Animal Science.

He has one daughter and four sons, two of whom served in World War II, one with the Veterinary Corps and the other as aide-de-camp.

OTHER NEW OFFICERS

Dr. Wesley A. Young, of Chicago, was unanimously elected treasurer. The five vice-presidents chosen for the ensuing year are:

Dr. Clay C. von Gremp, Decatur, Ga., 1st vice-president.

Dr. A. E. Cameron, Ottawa, Ont., 2nd vice-president.

Dr. C. R. Curtis, Portage, Wis., 3rd vicepresident.

Dr. I. S. McAdory, Auburn, Ala., 4th vice-president.

Dr. E. H. Willers, Honolulu, 5th vicepresident.

The Opening Session

Monday Afternoon, Aug. 18, 1947

The opening session of the Eighty-fourth Annual Meeting of the American Veterinary Medical Association, held at the Netherland Plaza Hotel, Cincinnati, Ohio, Aug. 18-21, 1947, convened at 1:45 p. m., President B. T. Simms presiding.

PRESIDENT SIMMS: The meeting will now come to order. We will have the invocation by the Rev. William B. Dern of St. Paul's Episcopal Church.

INVOCATION

REV. WILLIAM B. DERN: In the name of the Father, the Son and the Holy Ghost. Amen. Almighty God, our Heavenly Father, look, we beseech Thee, upon this gathering. Direct and rule their hearts and all their doings. Further



At the Installation Ceremony

Left to right—Dr. W. A. Hagan, president; Dr. A. E. Cameron, 2nd vice-president; and Dr. W. A.

Young, treasurer.

them with Thy continual help that in all their works begun, continued, and ended in Thee, they may glorify in convention Thy holy name. Amen.

(Singing of the National Anthem by the audience.)

PRESIDENT SIMMS: Ladies and Gentlemen: We are fortunate in having with us today the Mayor of Cincinnati, The Honorable Carl W. Rich, who will extend to us some words of welcome. (Applause.)

ADDRESS OF WELCOME

THE HONORABLE CARL W. RICH: Mr. Chairman, Officers, Ladies and Gentlemen of the Convention: I am delighted to be here not only officially but personally to welcome this great convention back to Cincinnati again. I understand it has been some sixty-four years since you were here the last time for a convention. I wonder if you had such a good time sixty-four years ago, that you were so worn out and have rested up since (laughter) or possibly we didn't treat you so nicely. hope that isn't the case, because we do believe here in Cincinnati we have one of the friendliest cities in all the world, and I hope you find it that way.

We are having a little typical California weather outside today (laughter) but it certainly is pleasant in here. I wanted to find out if the California delegation were here on

time, and they are. (Laughter.)
I know that this is one convention, at least, that is going to be well attended, with the thermometer about 98 outside.

We believe we have in this hotel one of the most beautiful in the country and I congratulate your committee on selecting it for your convention.

Cincinnati is an old city; it is an historical ty. Many famous men and women have lived here and carried on their busy lives here. We have a great art and cultural center, a great musical center. We have a fine symphony or-chestra. We have a fine art museum. I hope

you will get to see it before you leave. We have a zoo that is a little more mangy now than it was sixty-four years ago, but we have hopes. We have one attraction at the zoo that I know you are going to like immensely, if you have the opportunity to go

there, and that is Susie. She is the only trained gorilla in captivity. She is nineteen years old now. I don't know how you would feel about it, but I get a great kick just going out there and saying "Hello" to Susie and watching her.
So, if you do have an opportunity, go to see our zoo and see Susie. She is worth the trip. Our city is situated on some seven hills, ac-

cording to the poets. I have lived here all my



The Hon. Carl W. Rich, Mayor of Cincinnati, delivered the address of welcome.

life and I don't know where the seven hills are, but we do have some hills, and they are beautiful. Downtown Cincinnati, of course, is old. Our streets are narrow and we can't do much about it, but we do have beautiful suburbs, and I hope that some of your sight-



At the Installation Ceremony

Left to right-Dr. C. R. Curtis, 3rd vice-president; Dr. I. S. McAdory, 4th vice-president; Dr. C. C. Von Gremp, 1st vice-president; and Dr. L. M. Hurt, president-elect.

seeing trips will take you through our beauti-

seeing trips will take you through our beautiful residential sections.

We have, I think, the cleanest and finest amusement park in all the world in Coney Island. You get there by boat, if you care to go on the good old "Island Queen." It is just a ten-mile trip up the river. I know you will

enjoy Coney Island.

There are many fine things, many historical spots, too numerous to mention. In Cincinnati, we believe we have one of the best balanced economies in the country. Cincinnati never spirals upward in times of prosperity, nor does it spiral downward in times of depression. I believe that is due to two factors, one of which is that we have a loyal, patriotic citizenry and, the other, to the great diversification of industry. We have some 787 different indus-



Dr. Walter R. Krill responded to the address of welcome by Mayor Carl W. Rich.

tries in Cincinnati, so that when one or two or possibly a hundred of them are not enjoying prosperity, the others do keep on going.

I hope that you have an opportunity to see some of our industries at work. Cincinnati is the home of Rookwood Pottery, one of the most famous potteries in the world, and I hope you have an opportunity to see it. I want you to know that, even though all Cincinnatians can't be here to say "Welcome to Cincinnati," I am proud to be their representative in saying to you, ladies and gentlemen, I hope you have a most enjoyable time and that you will come to Cincinnati soon. Please don't wait sixty-four years again.

Thank you. (Applause.)
PRESIDENT SIMMS: We will ask Dr. Walter R. Krill, a member of our Executive Board, and dean of the College of Veterinary Medicine at Ohio State University, to respond to the Mayor's address. (Applause.)

RESPONSE

DR. W. R. KRILL: President Simms, Honorable Mayor Rich, Honored Guests, Ladies and Gentlemen: It is indeed an honor to respond to centemen: It is indeed an honor to respond to this cordial welcome given by the Mayor of Cincinnati. We native Buckeyes are proud of Cincinnati and the part that many of its lead-ing citizens have played in the development of our state and national welfare. We are also proud of the part that Cincinnati has played in the industrial and agricultural development of this state.

Early history records the fact that as early as 1813 the first pork packing plant was established in Cincinnati. This resulted in the development of one of the largest swine industries in Southwestern Ohio. It also was responsible for the development and the origin of the Poland China breed of swine.

The Ohio River and other transportation facilities resulted in the development of a great agricultural and livestock industry in this state which this past year amounted to over \$600 million and represents about 70 per cent of the total income from agriculture in the state.

It is, therefore, very appropriate that we should meet here in Cincinnati, because our profession over the years has had as its basic function the control and eradication and the treatment of livestock diseases.

The first meeting of our Association in the state of Ohio was held in Cincinnati in 1884. At that time the membership of the Association numbered around 175; there were 15 members in attendance at that meeting. Over the years, we have enjoyed a steady increase in member-



Mrs. H. Preston Hoskins, Women's Auxiliary president.

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ship until at the present time the membership is much over 9,000. As to the attendance at this meeting, well there is some argument between the chairman of the Local Arrangements Committee and the executive secretary as to just what that is going to be, but it will be much larger than 15.

We feel that these meetings have a definite purpose in the life of our organization, and that they serve a dual purpose. In the first place, they allow for an exchange of ideas among the members. They allow for the dissemination of the new knowledge of research. and, at the same time, the social activities assoclated with the meeting afford a very welcome respite to the busy professional man.

like to compare these meetings to the oldfashioned revival meetings in that they are a necessary part of our Association's life. I feel that those who attend go back home much better fortified to carry on their duties and tasks and, at the same time, they receive an inspiration and an enthusiasm which makes them want to serve our profession much more nobly than they have in the past. For that reason we are very happy to meet here in Cincinnati.

We enjoy the hospitality that has been extended to us by the Mayor and the citizens of this city. We hope that we may have the opportunity of coming back before another sixty-four years. We hope by that time the weather won't be quite so hot, but we do appreciate the cordial welcome extended to us by the Mayor. On behalf of the Association, I want to thank him. (Applause.)

PRESIDENT SIMMS: Through the past many years there has developed a very active Women's Auxiliary of the Association. During these years, as all of you who have been attending meetings know, Mrs. Hoskins has been at least one of the guiding lights. We always look forward with pleasure to having an opportunity of seeing her at these meetings, seeing the fine work that she and her associates are doing.

It is with real pleasure that we now have a chance to listen to Mrs. H. Preston Hoskins of the Women's Auxiliary. Mrs. Hoskins! (Applause.)

GREETINGS FROM THE WOMEN'S AUXILIARY

MRS. H. PRESTON HOSKINS: Dr. Simms, Dr. Madden, the Celebrities, and our Good Friends: It is indeed a pleasure for me to come before you again. Some interesting things have happened to us during the last year, but I have such specific instructions from Dr. Madden that I am going to have to talk very, very fast. Last year we gave you a brief sketch of our

Last year we gave you a brief sketch of our accomplishments over a period of years. We could not at that particular time announce to you the plans for this last year. Now we can tell you what we have done.

Through the efforts of Mrs. Anthony Bott of Illinois, who has been our secretary for state auxiliaries, we have established relations with 25 groups of women in various states in the United States. We have established a relationship with what we call state representatives, that is, some woman, in each state in connection with the women's organizations that are affiliated with the men's organizations in each state, who form a connecting link with our AVMA organization. We are delighted with these results, that there are, in the course of about a year and one-half, 25 of these connections with the state organizations, which give us an opportunity for a much closer relationship with the individual women.

with the individual women.

We have set up simple rules governing the official affiliation of these state groups with the AVMA Auxiliary. The groups are so diverse in their purposes, in the basis of their organizations, that we have had to make these rules very general indeed, but we are hoping that after a few years we shall have close coöperation among the wives of AVMA members throughout the United States and Canada.

Another development which has interested us

Another development which has interested us and from which we hope in the future we may have some good results is our association with the new AWVMA [Women's Veterinary Medical Association]. If there are any of you who do not know what that means, please look it up because it is an interesting group. I can't report to you on what they have done. But let me leave you with the most cordial greetings from the Women's Auxiliary to the AVMA and our very best wishes for a good time and a good program. (Applause.)

PRESIDENT SIMMS: The next item is the presidential address.

PRESIDENT'S ADDRESS

PRESIDENT SIMMS: It would be quite inappropriate if I did not express to this group today my appreciation of the very great honor that you conferred upon me when you selected me for this office, and I would surely be most ungrateful if I failed to express my apprecia-



President Simms delivers the president's message at the eighty-fourth annual meeting in Cincinnati.

tion of the fine cooperation and the wonderful support that I have had, during the time that I have served as president-elect and as president, from the members of the Board of Governors, from the Executive Board, and from all those in the executive office in Chicago.

It has been really and truly a pleasure and an inspiration to work with the people who have so much to do with the formation of plans for the future development of veterinary medicine in this country and Canada.

cine in this country and Canada.

(President Simms read his address.) (Applause.) (Published in the September, 1947, JOURNAL, p. 177.)

PRESIDENT SIMMS: We will now have an-

PRESIDENT SIMMS: We will now have announcements by Dr. A. G. Madden, Jr., general chairman of the Committee on Local Arrangements.

(Dr. A. G. Madden, Jr. made several announcements concerning the entertainment features and various meetings.)

and various meetings.)

PRESIDENT SIMMS: We now come to the presentation of the awards which are, as you know, given annually. The first one is the Humane Act Award, and we shall ask Dr. W. A. Young who is chairman of the special committee who handled this to take charge of the program for the presentation of this award.

1947 HUMANE ACT AWARD

DR. WESLEY A. YOUNG: President Simms Honored Guests, Ladies and Gentlemen: This year we on the Humane Act Award Committee are proud, and I believe that statement would hold true for each and every one present here,

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proud not because we are able to make this Humane Act Award but because we have the recipient here in person.

recipient here in person.

The Humane Act Award has been given for some four years now. The first one was won by a Chicago boy, the second by a Pittsburgh, Pa., boy, the third (last year) by a boy in Columbus, Ohio. This year we have changed to the fair sex, and we have a girl winner, Suzanne Weller, again from Pittsburgh. I don't know whether Pittsburgh has a corner on humane and kindly acts or not, but they have



Suzanne Weller, Pittsburgh, Pa., receives the Humane Act Award from Dr. W. A. Young.

scored twice in four years. That might be a challenge to you members of the AVMA to study your own territories just a little bit and remember that you are entitled and we are anxious for you to make nominations for the Humane Act Award each year,

I have just a few brief notes that I would like to cover. As chairman of the Committee on the Humane Act Award, it is a distinct pleasure to report on this year's act. We had more nominations than in previous years. Some came from practitioners and others came from humane societies. This year's winner, by unanimous vote of the committee, is a 14-year-old school girl from Pittsburgh, Pa. The original letter accompanying Suzanne's nomination reads, in part, as follows:

We have a very unusual rescue case showing courage and heroism, which we think is entirely worthy of high award as it involves the unfortunate rabid dog that was hounded by a mad mob of pursuers, but still more because it related itself to the possible fate of other dogs as well as persons in the comdogs as well as persons in the community.

The records indicate on Thursday, June 12, 1947, if not earlier, a black and white fox terrier developed a moody attack and began to bite whatever came in his path. The entire community was thrown into panic. Seven radio police cars, four Animal Rescue League trucks, and the entire dog-catcher squad were on the hunt to make the capture, but the dog evaded his pursuers and disappeared from sight.

evaded his pursuers and disapproved the sight.

On Friday, June 13, a 14-year-old girl, a student at the Lee School, observed the dog trotting down the street near the school. She succeeded in capturing it, clasping her hands over its jaws, carried it into the school building, attempted to put it in the major study

room, when she was bitten and the dog escaped. She again caught it and placed it in an empty schoolroom, awaiting the arrival of room.

authorities.

Records are not complete at time of writing.

Already we have the names of thirty-two school children, one schoolteacher, and several other adults bitten by the dog. The same evening of her experience this young lady played her violin in the school concert.

On Saturday, August 9, 1947, I learned that this girl was well and apparently safe from the dangers to which she had been exposed in this rescue. This courageous act of Suzanne Weller was more than heroism, for it stopped a health menace to the people and animals of Pittsburgh.

Thus, your committee is glad to honor this young lady with the Association's Fourth Hu-mane Act Award which reads as follows, and, Suzanne, will you come up here, please?

Citation

Kindness brings happiness to the one who gives it. The Humane Act Award of the American Veterinary Medical Association to Suzanne Weller, Pittsburgh, Pa., for her herolc services to both animal and mankind by capturing a rabid dog which had bitten many people at the Lee School in Pittsburgh in June 1947. Her efforts prevented great anxiety to the citizens of Pittsburgh and undoubtedly much suffering and disease among the people and animals of this city. Presented at the Eighty-fourth Annual Convention of the American Veterinary Medical Association, Cincinnati, Ohio, Aug. 18 to 21, 1947.
Suzanne, my deepest feelings and congratutions to you. Last but not least, here is a

lations to you. Last but not least, here is a \$100 U. S. Savings Bond which goes with it. I am very proud to present it.
(Presentation of inscribed award and govern-

ment bond.) (Applause.)



Dr. A. G. Madden, Jr., Cincinnati, general chairman of the local committee.

PRESIDENT SIMMS: The next award is the International Veterinary Twelfth Prize.

TWELFTH INTERNATIONAL VETERINARY CONGRESS PRIZE

PRESIDENT SIMMS: We are sorry to say that the recipient of this Award is not with us today. I shall read the citation and then a let-



Dr. Wm. J. Butler, State Veterinarian of Montana, was awarded the 12th International Veterinary Congress Prize.

ter from the recipient. Dr. William John Butler of Montana is the man who is receiving this award. (Applause.)

Citation

Dr. Butler, in acknowledgment of your generous contributions to the national welfare through wise application of veterinary science, your colleagues have the honor to award you the Twelfth International Veterinary Congress prize for 1947.

In the full light of ripe experience and long efforts in a famous livestock state, you have built up a pattern of veterinary service that all the country approves and strives to emulate. You have founded and staffed in the great Northwest the classical scientific research and technical field force required to provide the livestock industry and public health service of your state with the highest type of protection against the far-reaching effects of animal diseases.

Our biographer points to your birth in Scotland, the native land of James Law, F. H. Osgood, C. P. Lyman, Andrew Smith, Duncan McEachran, W. H. Dalrymple, and other architects of veterinary medicine in North America; to your graduation at the New York-American Veterinary College in 1903; to your early work with the U. S. Bureau of Animal Industry in the range country; to your Investigational studies in the field of entomology in collaboration with the U. S. Public Health Service which was to play a major role in disclosing the nature of Rocky Mountain spotted fever, and to the development of the Iamous research laboratory of that name at Hamilton, Montana; to your presidency of the Iamous research laboratory of that name at Hamilton, Montana; to your presidency of the U. S. Live Stock Sanitary Association and your tireless activities in that important national organization; to your appointment as state veterinarian in 1913, and the founding of the Montana Livestock Sanitary Board which placed the office of state veterinarian on a permanent basis; and to state-wide installation of meat, milk, and dairy inspection

under the direction of the livestock sanitary

under the direction of the livestock sanitary board which you served for thirty-five years, the last twenty-six as chief executive officer. By work and administrative coöperation with all concerned within your state, with your neighbors and with the federal government, you have not only mastered the animal plagues in Montana but, by example, you have inspired others to adopt your strategic plan of conducting a competent veterinary service in the public interest and to the best advantage of the veterinary profession, which is proud of you and your achievements.

Letter from Dr. W. J. Butler

DEAR FELLOW VETERINARIANS:

I thank you from the bottom of my heart for conferring upon me and I thank the Committee for selecting me for the Twelfth International Veterinary Congress Prize for 1947.

national Veterinary Congress Prize for 1947. I consider this award one of the greatest if not the greatest one that could be conferred upon me. You not only honor me but you honor the veterinary profession of Montana. Well do I realize that my meagre efforts in behalf of the veterinary profession and the livestock industry would have been of little avail had it not been for the exceptional loyalty, coöperation, and professional ability of the members of the Livestock Sanitary Board and practicing veterinarians of Montana. By their professional ability, courtesy, and consideration they are an honor to the veterinary profession. profession.

I assure you of my deep and sincere appreciation for this honor and regret that illness will prevent my being present to thank you in person. Sincerely,

W. J. BUTLER State Veterinary Surgeon.

(Applause.)

PRESENTATION OF BORDEN AWARD AND MEDAL

PRESIDENT SIMMS: The next award we have the privilege of giving today is the Borden Award. The committee of the Association has selected Dr. Jacob Traum of the University of California.

Dr. Traum, will you please come forward? (Applause.)



Dr. J. Traum, Department of Veterinary Medicine, University of California, receives the 1947 Borden Award medal and \$1,000 prize from Mr. W. A. Wentworth of the Borden Foundation for "outstanding research contributing to the control of dairy cattle diseases."

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Citation

Dr. Traum, on behalf of the A.V.M.A. Committee on Awards, I have the honor of designating you as the recipient of the Borden Award for 1947. This award is in recognition of your scientific achievements that have contributed greatly to man's conquest over the diseases of dairy cattle, and other useful animals with resulting benefits to mankind.

Conscious a mong your attainments have

mais with resulting benefits to mankind.

Conspicuous among your attainments have been your contributions to a better knowledge of brucellosis, tuberculosis, foot-and-mouth disease, and related infections. Reports of your studies covering the last third of a century have impressed other scientific workers with your skill in planning research projects and the thoroughness and diligence with which you have certified them to appear. with which you have carried them to successful completion. Besides, there has been evi-

with which you have carried them to successful completion. Besides, there has been evidence of your unfailing courtesy in giving coworkers a generous share of the resulting scientific and public recognition.

The wide geographic scope of your scientific endeavors is likewise noteworthy. They have included meat inspection and field work of the U. S. Bureau of Animal Industry, teaching and research at the University of California, a special investigation of foot-andmouth disease in Europe as a member of a commission of three scientists whose report has done much to establish the best means of suppressing this livestock scourge. These broad interests are not surprising to persons who know of your foreign birth and the roots of your scientific training, which extend to colleges in New York City, Ithaca, N. Y., and Washington, D. C. Membership in at least seven scientific organizations has apparently helped likewise in giving the name of Jacob Traum wide recognition and honor. One of these organizations is the American Veterinary Medical Association which is proud of your attainments.

As evidence of productiveness in the pub-

your attainments.
As evidence of productiveness in the publication field, my library reference cards show

more than 40 scientific papers of which you are the author or coauthor, exclusive of further adaptations of the basic material along popular lines. You appear to have used rare foresight also in the problems which you have attacked. For instance, the difficulties and complexities of research on Brucella infections did not deter you from gathering more and more data on that elusive group of bacterial malefactors over a long period of years. Today that knowledge is invaluable in the strategy underlying the eradication of brucellosis on a nation-wide scale. You, Dr. Traum, were the first to describe Brucella infection in swine. You were also the first to call attention to the rôle of so-called skin tuberculosis in relation to tuberculin reactions. All this knowledge has had highly important applications in field work.

Your studies on vesicular exanthema of swine have proved exceedingly valuable in the diagnosis of foot-and-mouth disease, which has long been conspicuous not only as a veterinary problem but also in the drama of food for a hungry world. Probably few persons who observe the current spectacular field operations against this disease in Mexico know of the painstaking laboratory studies pursued by you and colleagues in Europe and your subsequent related work on vesicular exanthema. Yet those studies provide a dependable means by which an afflicted country may regain its freedom from foot-and-mouth disease. In particular, Dr. Traum, your researches on the animal diseases mentioned have advanced the efficient and large-scale production of that vital fluid, milk, as well as of meat and other animal products. Thus, by contributing richly to veterinary science you have also rendered the still broader service of benefiting your fellow man. The present time when food is sorely needed throughout the world seems especially appropriate for granting you this award.

PRESIDENT SIMMS: Mr. Wentworth, I have

PRESIDENT SIMMS: Mr. Wentworth, I have



Executive Board Chairman Hastings presents gold key to incoming President W. A. Hagan.

great pleasure in presenting to you Dr. Jacob Traum of the University of California. This is Mr. Wentworth of the Borden Company. (Applause.)

MR. W. A. WENTWORTH: Dr. Traum, it certainly is a pleasure to be here again today, which is the fourth presentation of this award. I am sure that it must be gratifying to you to have noted, as most of the rest of us did, while the Mayor of Cincinnati was making his address, that quite a number of your fellow practitioners are here from California to see you receive this award. The reference to the weather at least in the Mayor's talk would indicate that some are here.

My only part in this recognition which is given to you, Dr. Traum, is to present to you the emoluments of the award. One of these is a gold medal. The back of this medal reads:

For outstanding research contributing to the control of dairy cattle disease to JACOB TRAUM—1947 by direction of the American Veterinary Medical Association.

I said on the back of that medal, because I want to refer to the front of this piece of paper. This says much less on it, Dr. Traum, than did the citation which Dr. Simms has just read. It does however say on this side "One thousand dollars."

These go to you as the one who this year is recognized by the American Veterinary Medical Association, and I congratulate you most heartily. (Applause.)

DR. JACOB TRAUM: Thank you, Dr. Simms, and thanks to the members of the committee

for selecting me as the recipient of the Borden Award for this year. I put it very mildly when I say I am deeply impressed and really overjoyed to know that my colleagues feel that I have contributed in fair measure to a better understanding of the causes of, and the prevention and control of, animal diseases.

I have been fortunate in my work to have been connected with the Bureau of Animal Industry and the University of California. In both institutions I received the full cooperation, the opportunity, the encouragement, the advice and, in my early days, the guidance. I want to take this occasion to acknowledge my indebtedness to Dr. John R. Mohler, former chief of the Bureau of Animal Industry, and former chief of the Pathological Division, and to members of the staff for the early training they gave me.

And I want to take this occasion also, and very much so, to acknowledge my indebtedness to Dr. C. M. Haring, chairman of the Department of Veterinary Science and dean of the new Veterinary School at the University of California, for his encouragement, for the opportunities that he presented to me, and for collaboration and coöperation.

Thank you very, very much. (Applause.)
PRESIDENT SIMMS: We shall now ask Dr.
Hastings, the chairman of the Executive Board,
to present the gold key and the service scroll.

GOLD KEY TO INCOMING PRESIDENT

DR. C. C. HASTINGS: Dr. Hagan, it is with both pleasure and regret that it becomes my



Executive Board Chairman Hastings presents service scroll to retiring President B. T. Simms.

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duty to present to you this gold key; a pleasure to know that the Association will be in good hands during the next year; regret that our mutual administrative duties are coming to an end.

This is the key to the intimate workings of the veterinary profession on the North American Continent. It places upon your shoulders many executive responsibilities and obligations of leadership, requiring the utmost in human endeavor. Your ability to perform these im-portant duties is attested to by your colleagues electing you their chief executive officer.

Gold has ever been an emblem of value and perfection, and here it signalizes the impor-tance of the position which you are about to assume. Its pure and spotless composition is synonymous with the aims and objectives of the American Veterinary Medical Association.

Your principal fields have been teaching, research, and administration, in which you have made an enviable record. Your appearance before numerous groups of veterinarians has served to carry modern methods and procedures to those engaged in the field of practice.

With full confidence and profound respect, I present to you this key to the important office of president of this Association. (Applause.)
(Presentation of gold key to President-Elect

Hagan.)

SERVICE SCROLL TO RETIRING PRESIDENT

DR. HASTINGS: Dr. Simms, in recognition of your valuable services during your tenure of office, I am privileged to present to you this service scroll.

Many important problems have been presented for solution during the last year. Your good judgment and balanced thinking have won you a prominent place near the top of the roster executives who have ably served this Asso-

Your distinguished work in the field of research, particularly with animal parasites and salmon poisoning of dogs, is of world renown.

Your all-important position in serving the livestock industry of this country is even more significant at this time, with foreign plagues knocking at our doors. We feel that this work,

so vital to our food supply, is in good hands and will be successfully prosecuted. My personal admiration has been augmented by our close association during the last few years. This service scroll is not presented for its intrinsic value but as a token of appreciation for services well rendered. And, in years to come, it will serve to renew your memory that here you gave a full measure of service to your chosen profession. (Applause.)

(Presentation of service scroll to President Simms.)

PRESIDENT SIMMS: We will proceed with he husiness of the meeting. The next is the business of the meeting. nomination of officers.
NOMINATION OF OFFICERS

PRESIDENT SIMMS: The first to be nominated is the president-elect. The statement is made in the Administrative By-Laws that the rules governing the election shall be an-nounced to the floor of the general session preceding the election by the executive secretary or his legal representative. We shall ask Dr. Klussendorf to announce these rules.

-(Assistant Executive Secretary Klussendorf

read Article III, Section 1, of the Administra-

tive By-Laws.)
PRESIDENT SIMMS: You have heard rules governing the election of a president-elect. We shall now declare nominations open for this office.

DR. CHARLES H. REID (West Hollywood. Calif.): Mr. President, Ladies and Gentlemen-It is usual at this time to begin by saying it is a pleasure and a privilege to nominate a member of this Association. I want to go member of this Association. I want to go further and state to you that I feel highly honored in occupying this position today. Many are far more capable and it is an honor bestowed upon me to make this nomination speech.

I submit to you the name of a man not foreign to this vicinity. He started not very far from here, made an enviable record for himself in the middlewest, and then journeyed further west where he has accomplished much

for the interest of the veterinary profession.

He is a leader in his field, there is no question about that. He is not only nationally known, he is internationally known. Several veterinarians in England asked me about this particular man and his work. So it must be outstanding when his name has reached that

He is admired and respected by all of us who are in close contact with him and also by those who are not in such close contact with him. He is a gentleman in every sense of the word. I have worked for this man, worked with him, lived with him, slept with him, and I think I know him pretty well. His friends are impressed by his fairness, his judgment, and his tolerance and, God knows, he needed the

latter sometimes.

This man has done as much, if not more, for the profession than any one man I know, and it is a pleasure to recognize him at this

He has acted in executive capacities in this organization at different times, other executive capacities outside this organization, and he has always acquitted himself creditably.

Thus he has the experience; there is no question as to his ability, and he has the time to give to this office. There is none in this room or in the profession that can question his integrity, his unselfishness, his patience, and his loyalty to the profession and this Association in particular.

I would therefore like to point out to you (I don't know how you feel but I know how we feel out west) that if we know that this man is the skipper of the boat, we do not worry. Infectious and contagious diseases come and go, but if we know this man is at the helm, we feel pretty safe, because we know his judgment is the best and, therefore, we let him do the worrying. We are glad to take his orders.

I submit for your consideration the name of one of the grandest men in the profession, and the whole west will back me up on that, Dr. Leslie M. Hurt of Los Angeles, Calif. Let us make this unanimous, if you see fit to do so.

Thank you, gentlemen. (Applause.)
DR. W. R. KRILL (Columbus, Ohlo): President Simms, I have not been coming to these
AVMA meetings as long as some of you folks, but every time I have attended an AMVA meeting Hurt has been present. It has been my pleasure to work with him in the Executive Board of our Association and in committees. I have had the opportunity to look over some of his early work in connection with our Assocla-tion in studying problems of improving the tion in studying problems of improving the licensing of veterinarians in this country. He is definitely interested in the welfare of the veterinary profession and in the affairs of this Association. He has been well schooled in the operation of the AVMA in his work on the Executive Board.

For that reason it is really a pleasure to second the nomination of Dr. Hurt. (Applause.)

DR. ROBERT S. MACKELLAR, SR. (New York, N. Y.): Mr. President, Members of the American Veterinary - Medical Association: I endorse all that has been said about Dr. Hurt. have known him for a great many years. I admire him personally as well as for the wonderful way he has served the country, the veterinary profession, and this great Associa-

I therefore endorse all that has been said and take pleasure in seconding his nomination.

(Applause.)

DR. J. LEONARD AXBY (Indianapolis, Ind.): Mr. President and Members of the Association: It has been my pleasure to work with Dr. Hurt a member of the Executive Board of the AVMA and as a member of the U.S. Live Stock Sanitary Association. As president of the U. S. Live Stock Sanitary Association, if there were some particular service I wanted rendered, I taked to Dr. Hurt and he agreed to perform it, and he rendered that service well.

Dr. Hurt is known to be personable and to

have wonderful administrative and executive qualifications. No one can question his pro-fessional ability. No one can question his patriotism and his loyalty to the veterinary pro-

Therefore, it is with pleasure that Indiana seconds the nomination of Dr. Hurt. (Ap-

plause.

DR. N. J. MILLER (Eaton, Colo.): Mr. Chairman, in seconding the nomination of Dr. Hurt as the executive officer of this Association, I would emphasize two points. One is his interest in this Association and the service that he has rendered in serving on the Executive Board and other committees, which makes him familiar with the mechanics of the work of this Association.

The other point is this: It has been thirtytwo years since California has presented a man to lead this Association. Since 1915, California has not been represented, or the West Coast has not been represented. It would be very fitting if one of the native sons could be inntting if one of the native sons could be installed as president of this Association at the meeting in San Francisco next summer. It would be a great honor to the veterinarians on the West Coast if we could do that.

I take pleasure in seconding the nomination

of Dr. Hurt. (Applause.)

of Dr. Hurt. (Applause.)

DR. C. C. HASTINGS (Williamsville, Ill.): It is indeed a pleasure for me to second the nomination of Dr. Hurt. I served on the Executive Board with him for several years. I was instrumental in getting him to work on several important committees, on which he did an excellent job. He has the ability, the time, the integrity to make a good president-elect and president of this Association. and president of this Association.

Therefore, it is a pleasure for me to also second the nomination of Dr. Hurt. (Applause.) DR. SAMUEL E. HERSHEY (Charleston, W It is a great pleasure for me to second

the nomination of Dr. Hurt. (Applause.)
DR. RAYMOND A. KELSER (Philadelphia,
Pa.): Mr. President, I think it is very clear to everyone here that Dr. Hurt is the unanimous choice of this Association. I therefore move that he be unanimously elected, and that the secretary be directed to cast the ballot of the Association for his election.
DR. THOMAS A. SIGLER (Greencastle, Ind.):

Second it.

PRESIDENT SIMMS: It has been moved and seconded that Dr. Hurt be elected by acclamation or be declared unanimously elected, and that the Secretary be instructed to cast the ballot of the Association in support of this. Is there any discussion of this motion?

not, we will put the motion. Those in favor signify by saying "aye"; those opposed by saying "no." The motion is carried and it is so ordered. (Applause.) Where is Dr. Hurt? (

Where is Dr. Hurt? (Applause.) PRESIDENT-ELECT HURT: Fellow Members, Executive Officers and Others, Ladies and Gentlemen: I am surely impressed with this honor. I don't know whether I realize the responsibilities I am shouldering or not. I will endeavor to be a president of whom you will be proud, succeeding as I do a wonderful group of fellows. It will be a great pleasure to be associated with those I have known so well.

I thank you one and all for your thoughts this connection and your well wishes. I will try to live up to them.

Thank you all. (Applause.)
PRESIDENT SIMMS: The next order of business is the election of our five vice-presidents. I will again ask that Dr. Klussendorf read for

us the requirements concerning this election.
(Assistant Executive Secretary Klussendorf read Article IV, Section 1 of the Administrative

ve By-Laws.)
PRESIDENT SIMMS: We shall now receive

nominations for vice-presidents.

DR. ASHE LOCKHART (Kansas City, Mo.):

Mr. President, I place in nomination an outstanding practitioner from the deep south, Dr. von Gremp. Clay C.

DR. B. E. CARLISLE (Camilla, Ga.): I have known Dr. von Gremp for some thirty years now, and it is my knowledge that he enjoys the confidence, respect, and admiration of the practitioners of veterinary medicine by all who know him.

It is my pleasure and privilege to second his

nomination for first vice-president.

DR. RONALD GWATKIN (Ottawa, Ont.): Mr. President, I place in nomination the name of man who has given really good service for a man who has given really good service for the last fifteen years to this Association and to Canada, which we know is District 1. I refer to Dr. A. E. Cameron whom I know is very well known to everyone here and who is being replaced this year as representative of District 1 by Dr. MacNabb.

It would be a great pleasure to me to see Dr. Cameron in the position of second vice-

president. (Applause.)

PRESIDENT SIMMS: Are there further nomi-

DR. THOMAS H. FERGUSON (Lake Geneva, Wis.): I would like to place in nomination as candidate for third vice-president Dr. Curtis who this year served as fourth vice-president.
Dr. C. R. Curtis of Wisconsin! (Applause.)
DR. DENNIS COUGHLIN (Knoxville, Tenn.):
I wish to offer the name of Dr. I. S. McAdory

of Alabama.

DR. R. A. HENDERSHOTT (Trenton, N. J.):

If I am in order, I would like to place in nomination the name of Ernest H. Willers of

Honolulu, Hawaii, for fifth vice-president.
PRESIDENT SIMMS: Gentlemen, we have five names in nomination. Shall we place other

DR. R. A. HENDERSHOTT: I move that the nominations be closed and that the secretary cast the ballot for those named, in the order in which they were nominated.

(The motion was regularly seconded.)
PRESIDENT SIMMS: It has been moved and seconded that the nominations be closed and that the secretary cast the ballot of the Asso-ciation for the five vice-presidents, to be ranked in the order in which they have been nominated. Is there discussion of this motion? If not, we shall put the motion. Those in favor sig-nify by saying "aye"; opposed "no." The nify by saying "aye"; opposed "ayes" have it, and it is so ordered.

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Dr. Klussendorf, acting secretary, has cast the ballot.

Next in order is the election of a treasurer. The Administrative By-Laws state that the treasurer shall be elected by ballot at each regular annual session, at the time and in the manner prescribed in Section 1, Article III, for the election of a president-elect. Since the manner designated has already been read by Dr. Klussendorf, it will not be necessary have this information presented a second time. We will now declare nominations open for

DR. J. V. LACROIX (Evanston, Ill.): Mr. President, Members of the American Veterinary Medical Association, and Friends: It has been a pleasure to work with you the past few years. Particularly has it been most pleasant and satisfactory to function with officers and members of the Executive Board and all of you with whom I have come in contact in this work, but there comes a time in the life of every man when for reasons good and suffi-cient he sees fit to retrench a bit on his activities. With me, that time has come. I am here, therefore, to offer for your consideration the name of Dr. W. A. Young, Chicago.

Experience has shown us that when the office of the treasurer is situated near the home base, that is a convenience. However, I should have mentioned that convenience last, if you will pardon me. Dr. Young lives in Oak Park, Ill.,

a village adjoining Chicago. He is managing director of The Anti-Cruelty Society of Chicago. You heard him today. He has a good voice, a fine manner; he is a gentleman, a man of unquestioned integrity, a fine family man, and I am sure he will make a good treasurer, if you see fit to elect him. He knows how to cooperate with men. He is experienced in association work. I am sure we will make no mistake in selecting Dr. W. A. Young as treasurer.

DR. DENNIS COUGHLIN (Knoxville, Tenn.): Mr. President, Dr. Lacroix has served well. He has been a hard worker. Now I understand his private duties call for too much of his time and he asks relief. I believe Dr. Lacroix should be highly commended for the service he has given and I believe we should grant him

that relief.

The man selected, Dr. Young, is a person of demonstrated ability. I have been coming to these meetings a long time, and I have known Dr. Young for a long time. He has always been on the job. I consider him a hard worker in the veterinary profession. He is situated conveniently to the central office. I am confident he will render very efficient service.

I second the nomination of Dr. Young of

(Applause.) Chicago.

PRESIDENT SIMMS: Are there further nom-

inations for treasurer?

DR. THOMAS H. FERGUSON (Lake Geneva. Wis.): I move that the nominations be closed,



A partial view of the annual banquet in the Hall of Mirrors, Netherland Plaza Hotel, Cincinnati,

and that the secretary be instructed to cast the unanimous ballot of the Association for Dr. Young.

DR. B. E. CARLISLE (Camilla, Ga.): Second it.

PRESIDENT SIMMS: It has been moved by Dr. Ferguson and seconded by Dr. Carlisle that the nominations be closed, and that the secretary be instructed to cast the unanimous hallot for Dr. Young as treasurer. Is there discussion of this motion? If not, we will put the question. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it, and it is so ordered.

This concludes the election of officers. less there is some business from the floor, we will declare the meeting adjourned.
(The meeting adjourned at 3:40 p. m.)

Fourth General Session

(At the final general session on Thursday morning, August 21, President Simms requested that the new officers be conducted to the platform, and the installation proceeded.)

INSTALLATION OF OFFICERS

PRESIDENT SIMMS: We come now to the last item on the program of the Fourth General Session, which is the installation of officers.

Our time is short but, fortunately, the men we have elected to these offices are so well known that it is neither necessary to intro-duce them nor to eulogize them. Their faces are familiar to all of us. Their long years of service to the American Veterinary Medical Association are recorded in history, and what we might say would not add to that, nor could we detract from the fine work that these men have done for us.

Without any further ado, I will simply say. Dr. Hagan, it is a real pleasure and honor to

turn over to you and place in your capable hands the guidance of this fine organization.

Dr. Hurt, we feel sure that you, following in the footsteps of Dr. Hagan, will continue the fine work that he will see to it is under way during his administration.

To our vice-presidents, Dr. von Gremp, it is a real pleasure to see you accepting the position of first vice-president. Dr. Cameron, a friend of long standing and a man who has been faithful in the service of the organization down through the years, we appreciate the honor of having a chance to install you as one of the vice-presidents.

Curtis, it is very nice indeed to have

you installed as vice-president.

To my good friend of many years, Dr. Mc-Adory, it is particularly a pleasure to me to have this opportunity to see you on the stage and become one of the vice-presidents of this organization.



Another view of the annual banquet held Wednesday evening in the Hall of Mirrors of the Netherland Pleza Hotel, Cincinnati.

I believe Dr. Willers is not with us. He was here last night.

Finally, last but not least, the man who will handle the treasury for us. All of us know Dr. Young and know his fine work, and it is not necessary for me to say anything more than that we know that the tradition of work of high quality and caliber in the treasurer's office will be continued under your most capable direction.

Dr. Hagan, it is a pleasure to turn over to you the gavel of this Association. (Applause.) (President-Elect Hagan assumed the chair.)

PRESIDENT HAGAN: Thank you, Dr. Simms, want to thank all of you members of the AVMA for the confidence you have placed in me in electing me president of this organization, the greatest veterinary organization in the world, the largest one, the most influential one.

A person would be presumptuous indeed if he didn't have a humble spirit in being selected didn't have a humble spirit in being selected for this high office. I can only say to you that I appreciate very deeply the confidence that you have placed in me. I hope to do the best I can, and with the help of the people that are behind me and the people who are before me, and some of the others not here today, those who have been making the organization work for these many years, we hope to carry on and advance not only the Association but the profession.

The profession of veterinary medicine is closely linked with many other professions. We are, I think, an integral cog in a series of human efforts that are making for the betterment of mankind.

L feel that service is the keynote of our profession, it should be the keynote of our profession, and we shall be rewarded in such degree as we serve others. Selfishness has no place in mankind, and mankind usually does not reward selfishness except in the way it deserves to be rewarded.

Therefore, I hope that the officers and members of the organization always keep in mind that we are serving others, and in serving

that we are serving others, and in serving others we will advance our own interests.

I believe the time is a little short for speeches from the other officers. In due time, you will have a chance to hear from these men. I think, perhaps, I had better declare the session over, so that we can proceed to the alumni luncheons and other things scheduled at this time. Thanks again. The meeting is adjourned. (Applause.)

(The meeting adjourned at 12:20 p. m.)

Advice to Speakers Who Use Lantern Slides

Although there are many reasons for attending scientific meetings, the major one for most scientists is to hear original work described in person by the people who performed the experiments. In this connection, and in view of my belief that one of the worst aspects of many papers is the use of lantern slides, may I suggest that (1) the only material put on the screen be that which is specificially referred to during the talk; (2) long columns of figures, while necessary in a published paper, be omitted from the slides; (3) slides be made with the smallest possible amount of material on each one, so that the observer is conscious of having absorbed their content before the next slide is shown; and (4) a typewritten sheet of paper subsequently photographed to make a slide usually renders the image too small and should be avoided.—G. H. Benham, Illinois Institute of Technology, in Science, March 28, 1947.

1948 Convention in San Francisco

As previously announced, San Francisco was selected by the House of Representatives in 1946 as the site for the 1948 convention.

The dates are Aug. 16-19, 1948. Headquarters, Palace Hotel.

A housing bureau will be set up by the Committee on Local Arrangements in coöperation with the San Francisco Convention and Tourist Bureau. An ample number of rooms to accommodate those attending the AVMA convention has already been assured. Those who anticipate going to the San Francisco session should not attempt to make advance hotel reservations until official blanks are published in the JOURNAL. This will be done in ample time so that every one can be accommodated.

Watch the Journal for subsequent information about the 1948 convention.

"We'll meet you at the Golden Gate In Nineteen Hundred-Forty-eight!"

A Method for Differentiating between Vaccinal Titers and Infection Titers of Brucella Abortus in Cattle

J. R. DICK, A.B., M.A., D.V.M., W. G. VENZKE, D.V.M., Ph.D., and CHAS. YORK, A.B., D.V.M.

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WITH the introduction of strain 19 Brucella abortus and the program based on its use as a vaccine, it was evident that there would eventually be a great need for a relatively simple but accurate test for differentiating between animals with vaccinal titers and animals having actual infection titers due to virulent strains. The need for such a differential test has increased as time has passed, partly because of increased knowledge in the use of strain 19, and, conversely, partly because of increased knowledge due to the misuse of the same vaccine.

titers before they are a year old, and will definitely have lost their titers before reaching breeding age in the great majority of cases. We know, too, that animals vaccinated at such early ages attain, as a rule, only a minor resistance to infection and even this is lost, usually, by the time the animal is 3 years old.

It is known that animals vaccinated between the ages of 10 and 12 months will show much greater resistance than calves vaccinated younger. Also, it is well established that adult vaccinated individuals show even a greater resistance than vac-

TABLE I—Effect of Strain 19 Brucella Abortus Vaccination on Infected Cattle (Br. abortus isolated from all individuals previous to vaccination—no previous vaccination history)

Animal	titer	titer	titer	titer	titer	titer
	7-1-46	7-19-46	7-25-46	7-30-46	8-16-46	
232	1:800	1:800*	1:800	1:800	1:800	
	7-15-46	7-19-46	7-25-46	7-30-46	8-16-46	
159	1:400	1:400*	1:400	1:400	1:400	
	5-2-47	5-9-47	5-15-47	5-20-47	5-27-47	6-2-47
1944	1:800	1:800*	1:800	1:800	1:800	1:800
	5-7-47	5-21-47	5-23-47	6-2-47	6-12-47	6-25-47
HNC	1:100	1:100	1:100*	1:100	1:100	1:200P

^{*}Denotes date of injection after bleeding. Note partial dilution increase in HNC after 33 days.

There is a wealth of data in the literature supporting the benefits to be derived under certain circumstances and also there is considerable data enumerating circumstances in which the use of strain 19 is of doubtful value or even contraindicated. Because there has been no satisfactory method of differentiation between vaccinal titers and infection titers, the successful application of strain 19 as a vaccine has been seriously limited and handicapped.

For example, we know that animals vaccinated between the ages of 4 and 6 months will practically always lose their vaccinal cinated yearlings, but our regulatory laws are such that these animals when vaccinated "late" or as adults are penalized because they carry a titer instead of being credited because they carry more resistance to infection.

The practice of vaccinating all clean animals in a herd recently infected with brucellosis is of great value in stemming the tide of infection in that herd. Unfortunately, it is often the practice to vaccinate all females in the herd without knowing which, if any, are clean. When the visible signs of the abortion storm have passed, all animals are carrying titers, but it is impossible to determine which animals carry infection titers and which carry vaccinal titers.

The lack of a differential test has held back research of multiple injection rather than single injection procedures. Calves

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The authors express thanks to Dr. Richard Engard, Dr. Fred Clayton, and Dr. E. W. Porter for their sincere cooperation.

Assistant professors (Dick and Venzke).

vaccinated with a series of injections should be more resistant than those vaccinated by a single injection. The success in this application will, we feel, depend entirely on the interval between injections and remains to be worked out.

All of these points are mentioned to reintroduce the fact that there is a great need for a test to differentiate vaccinal differentiation by means of whey titers would be possible only when a concise herd history and/or a careful bacteriologic confirmation could be made. We believe that our method is not dependent on either herd history or bacteriologic confirmation.

Previous to the work already cited, Huddleson, Irwin, and others demonstrated differences between resistant and infected

TABLE 2—Effect of Strain 19 Revaccination on Infected Animals (Br. abortus isolated from all individuals previous to revaccination—animals vaccinated as infected cows 1 to 11/2 years before)

Anima		ters 4-47	Tit 7-10		Tit 7-22	ters -47*	Tit 7-31	Tite 8-14-	-	
no.	blood	whey	bl	wh	bl	wh	bl	wh	bl	whi
12	1:800	1:150	1:800	1:400	1:800	1:400	1:800	1:400	1:800	
17	1:800	0	1:800	1:25	1:800	1:100	1:800	1:100	1:800	
18	1:800	1:400	1:800	1:100	1:800	1:200	1:800	1:400	1:800	
19	1:200	1:50	1:200	0	1:200	1:50	1:200	1:25	1:200	
20	1:1.600	1:300	1:1,600	1:100	1:1,600	1:50	1:1,600	1:50	1:1,600	
21	1:400	1:150	1:200	1:100	1:400	1:50	1:400	1:100	1:400	
28	1:3,200	1:800	1:3,200	1:400	1:3,200	1:400	1:3,200	1:400	1:3,200	

*7-22-47 date of revaccination. †Not run.

titers from actual infection titers. Such a test will greatly clarify regulatory decisions on matters such as interstate shipment, herd status, indemnity adjustments, and public health problems. We believe it will bring the complete eradication of this disease a step closer to actuality.

The literature is practically devoid of information concerning studies regarding the development of an acceptable differential test. Traum and Maderious1 have suggested the possible importance of whey agglutination titers as a means of making a differentiation and stress the importance of this method as a means of detecting Br. abortus shedders via milk. There are some obvious limitations. Males, heifers, and nonlactating cows could not be tested for either differential purposes or for determining shedders. Then too, our work seems to indicate that whey titers are so closely dependent on blood serum titers that it might be better to use the latter as a test medium for differential purposes. Moreover,

individuals by means of serum titrations, bactericidal activities, and opsono-cyto-phagic phenomena, but these methods have not been accepted as being conducive to mass testing.

Other workers² have studied the "reinfection of previously infected individuals" in both cattle and swine and have contributed some data which support our work.

PROCEDURE

It had been previously found (JRD) that vaccinated individuals maintained in an infected herd do not benefit as much as might be expected from natural "booster shots." That is, there is apparently very little pick-up of either living or dead organisms (Br. abortus) in most herds, or, if there is much pick-up, it is not reflected by the stimulation of specific antibodies in the blood serum of these individuals. Since many susceptible individuals come down quite readily when kept in an infected herd, it was deemed possible that there may be antigen, (Br. abortus in this case) present in the bodies of these vaccinated individuals at all times and

TABLE 3—Effect of Strain 19 Revaccination on Noninfected Cattle (vaccinated clean as adults I to 11/2 years before)

Anima	_	iters 34-47		ters 0-47	-	iters 2-47*	Tit 7-31	ers -47	Tite: 8-14-	
no.	blood	whey	bl	wh	bl	wh	bl	wh	bl	wh
	1:100	0	1:50	0	1:50	0	1:800	1:12.5	1:1,600	
23	1:100	0	1:100	0	1:100	0	1:400	1:25	1:800	
83	1:100	0	1:100	0	1:100	0	1:400	1:25	1:800	
22	1:50	0	1:50	0	1:50	0	1:400	0	1:800	
13	1:50	0	1:50	0	1:50	0	1:200	1:12.5	1:800	
60	1:100	0	1:100	0 '	1:50	1:12.5	1:400	1:50	1:800	
16	1:400	0	1:200	0	1:100	1:12.5	1:1,600	1:100	1:1,600	

*7-22-47 date of revaccination. Animals 24 and 16 are in a declining titer phase, †Not run.

that the continual antigenic stimulation had rendered the antibody producing mechanism static, or unable to respond further to a potential specific antigen.

Revaccination of these animals with strain 19 immediately resulted in significant rises in blood serum titers (also in whey titers) and immediately disqualified our theory on these animals.

The next step was obvious. Infected individuals must be more or less saturated, so to speak, with antigen, Br. abortus. If the infection was not too recent, in other words, if the antibody producing cells had been stimulated to their capacity, then a static phase must exist, and an injection of strain 19 should elicit no stimulation of additional antibodies, and the blood serum (or the whey) titers should not rise for considerable periods of time. And such was found to be the case.

The deductions are again obvious; herein was a suggested procedure for differentiating between vaccinal titers and infection titers of not only *Br. abortus* but of other diseases as well

The immediate problem was to work out a method of determining when a blood serum titer was stabilized, that is, not in a phase of increasing or decreasing titer. We have since found that a decreasing titer phase has no influence on our test. Another problem was to determine the accuracy of this method by confirming our detection of infected individuals bacteriologically.

Whereas, then, in noninfected vaccinated animals, very significant titer rises were apparent in from six to seventeen days following the injection of strain 19, in infected individuals there were no indications of titer rises for at least thirty days or longer. In order to subject these observations to a critical field study, it

was decided to subject several problem herds to test. The results obtained constitute the basis for this paper.

TECHNIQUE

Blood .- Blood from the test animals was allowed to clot and the serum was checked by the rapid-plate method to its titer end-point. Serial dilution was made, if necessary, to reach the end-point. A week or so later, the test was repeated to learn whether or not the blood serum titer level was in a phase of increase, stabilized, or in a phase of decline. If stabilized or declining titer phases were observed, the animal was injected with 5 cc. of strain 19 Br. abortus vaccine (BAI), intramuscularly. However, if the titer phase was on the increase, the animal was not injected but was held and rebled later to again ascertain the titer status and trend and was not injected until the titer was not in an increasing phase. This has not been a serious inconvenience since, in our work, this was seen in only about 3 per cent of all animals studied. The injected animals were bled at various intervals and the titer checks for end-points were made and compared with end-points previous to injection of strain 19.

Milk.—Whey titers were determined on quarter samples drawn at the same time as the blood samples. Foremilk from each quarter was used in preference to composite samples. To each sample a drop of rennet solution was added, mixed, and the samples incubated for approximately eight hours at 37.5 C. The clear fluid was then checked by the rapid-plate method, starting at a dilution of 1:12.5 and continuing as necessary until the end-point was reached.

Bacteriologic.—Isolation of Br. abortus from the test animals was carried out exclusively by culture methods. Quarter samples of milk col-

TABLE 4-Application of Test to a Problem Herd

Animal	6-2	4-47	7-10	0-47	7-22	-47*	7-3	1-47	8-14-		solation of Br.	
no.	blood	whey	blood		blood	whey	blood				abortus	
1	1:100	0	1:50	0	1:50	0	1:800	1:12.5	1:1,600		-	
2	1:100	0	1:100	0	1:100	0	1:400	1:25	1:800		amino	
3	1:100	0	1:100	0	1:100	0 .	1:400	1:25	1:800		armed .	
4	1:50	0	1:50	0	1:50	0	1:400	0	1:800			
5	1:100	0	1:100	0	1:50	1:50	1:400	1:50	1:800		-	
6	1:400	1:150	1:200	1:100	1:400	1:50	1:400	1:100	1:400		+	
7	1:100	0	1:50	0	1:50	0	1:200	1:12.5	1:400		-	
R	1:1,600	1:300	1:1,600	1:100	1:1,600	1:100	1:1,600	1:50	1:1,600		+	
9	1:400	0	1:200	0	1:100	1:12.5	1:1,600	1:100	1:1,600		-	
10	1:100	0 .	1:100	0	1:100	1:12.5	1:800	1:50	1:1,600		-	
11	1:200	1:150	1:800	1:200	1:800	1:200	1:800	1:200	1:800		+	
12	1:200	1:50	1:200	0	1:200	1:50	p1:400	1:25	p1:400		+	
13	1:800	1:400	1:800	1:100	1:800	1:200	1:800	1:400	1:800		+	
14	1:800	0	1:800	1:25	1:800	1:100	1:800	1:100	1:800		+	
15	1:200	0	1:100	0	(too far a	long with	calf to ir	iject)		+	
16	1:100	1:300	1:100		(too far al	long with	calf to in	ifect)		_	
17	1:800	1:200	1:1,600	1:200	1:1,600				1:1,600		+	
18	1:100	0	1:100	1:25	1:100		1:200	1:25	1:800	A 0	atomics.	
19	1:3,200	1:800	1:3,200	1:400	1:3,200		1:3,200		1:3,200		+	
20	1:50	0	1:50	0	1:50	- 0	1:200	1:12.5	1:800		-	
21	1:800	1:150	1:800	1:400	1:800	1:400	1:800	1:400	1:800		4	

^{*7-22-47} was the date of injection.

lected in sterile tubes were refrigerated until gravity cream had risen. The cream from each sample was streaked on individual plates of tryptose agar (Difco) containing 1:200,000

TABLE 5-Effect of Revaccination on Vaccinal Titers

Blood serum reaction group	Average no. of dilutions increase
1:25	4
1:50	3
1:100	2.2
1:200	2.2
1:400	1.8
1:800	? (no animals fell into this group)
0	6

Averages based on 100 individuals vaccinated from two months to two years previous to revaccination.

crystal violet, incubated at 37.5 C. under 10 per cent carbon dioxide tension and examined for growth on the third and sixth days. Characteristic colonies were studied, stained, and later checked with known positive and negative serums. Citrated blood samples were used for culture in some instances, but milk samples are preferable when obtainable.

DISCUSSION

The basis for our investigation exists in the fact that in an infected individual the infecting organism is continually present as an actual or potential stimulus to the antibody producing mechanism for the production of specific antibodies. Under such continual stimulation, the antibody producing mechanism becomes static, that is, fails to respond to the antigenic stimulus, and the antibody level or titer of the blood reaches a peak level and then gradually drops as antibodies are lost and are not replaced. Any further attempts to cause stimulation by the injection of the infecting organism result in failure, at least for a time, because of the static antibody producing mechanism (tables 1 and 2).

If a clean animal is vaccinated, the antibody production is demonstrable within six to seventeen days. We are all familiar with this phenomenon. If a clean animal is vaccinated and then at some subsequent date is revaccinated, the antibody titer increases even more strikingly within the same period of time (6 to 17 days), providing, of course, the animal has not become infected previous to the revaccination (table 3).

Table 4 shows the results of our tests on a herd in which all animals had been vaccinated at least once. There were known reactors vaccinated as such, adult animals vaccinated clean; calfhood vaccinated animals revaccinated as adults, and almost every conceivable set-up imaginable was present in this herd. All but 2 individuals in this herd had titers of 1:100 or higher. Many animals had lost their identification tags so that the true status of this herd was indeed very much confused. The complete data is shown in table 4.

It seems logical that animals whose blood serum titers fail to increase upon the injection of strain 19 (table 4) be placed in the same category as those animals represented in table 2, which group represents our control on infected animals subjected to a revaccination.

It also seems logical that animals whose serum titers do increase upon the injection of strain 19, be placed in the same category as those animals presented in table 3, which group, we feel, represents our control on noninfected animals subjected to revaccination.

The differentiation is based entirely on the fact that titers rise or fail to rise; the titer height is not important. We have found that the average number of dilutions in titer rise for vaccinal titers varies somewhat for the different reaction groups and these differences are shown in table 5.

SUMMARY

- 1) A method for differentiating vaccinal titers from infection titers is presented.
- 2) Four herds totaling around 100 head were under test; one representative herd is listed in detail.
- 3) We believe that any animal that is not stimulated to the production of agglutining by the intramuscular injection of 5 cc. of strain 19 vaccine within a maximum of fifteen to seventeen days is an infected
- 4) We can not visualize any possible way to plug or cheat this test for the owner's advantage.
- 5) We feel that herd history and/or bacteriologic confirmation will not be necessary to confirm the accuracy of this test in the field.

References

- ¹Traum, J., and Maderlous, W. E.: Interpretation of Whey Agglutination Test Results in Cows Vaccinated with Brucella abortus Strain 19. Am. J. Vet. Res., 8, (July, 1947): 244-246.

 ¹Hutchings, L. M., Delez, A. L., and Donham, C. R.: Studies on Brucellosis in Swine. Am. J. Vet. Res., 7, (Jan., 1946): 11-20.

The International Institute of Epizootics, Paris, France

LT. COL. FRANK A. TODD, V.C., U. S. ARMY

U. S. Zone, Germany

THE International Institute of Epizoötics is an organization established to collect and disseminate current data on the status of animal health within the countries of the world. The Institute initiates and coördinates the research work for those contagious animal diseases in which international collaboration is thought necessary. It also gathers and distributes, by means of bulletins, recent experiments and scientific investigations relating to veterinary medicine and livestock diseases.

This international group was initiated following an outbreak of cattle plague in Belgium, contracted through Indian zebus. A conference representing 39 nations was called in Paris in 1921. At this meeting, it was decided to create, in Paris, an international institute devoted to the study of epizoötics and their control. Diplomatic negotiations proceeded up to 1927. In that year, an international agreement was concluded and the statutes of the institute were approved by 28 countries; 44 countries are now parties to this office; however, neither the United States nor Canada have been members. (See Appendix 1).

The organization consists of a committee composed of one delegate from each of the member countries; a president being elected to serve for three years; a vicepresident appointed; and a director chosen, the latter being located at the Institute's permanent office at 12 rue de Prony, Paris 17, France.

The incumbent president is Prof. Dr. G. Flückiger, director of the office of the federal veterinarians, Berne, Switzerland; the director is Prof. E. Leclainche of France.

The Institute is an autonomous, international organization, entirely independent of the country where it has its headquarters.

Annual meetings were held, and questions concerning animal diseases of an economic interest were considered according to their importance and their occurrence at the time. These studies were entrusted to experts from the countries represented. Their reports were discussed at the committee meetings and resolutions adopted and submitted to the various governments.

The permanent office followed carefully the progress of epizoötic diseases and correlated the statistics supplied by the various countries. Up to the present (1946), 25 volumes have been issued. In addition, the Institute supplies information concerning the outbreak and the progress of epizoötic diseases to the appropriate services of the member countries by various means, i.e., postal, telegraphic, and radio. The office also recorded the progress made in the study of diseases and their control and collected the information in the Bulletin. of which 23 volumes have already been published. The minutes of the meetings, comprising the preparatory reports, the discussions, and the resolutions, were published each year in a separate volume.

The Institute was keenly interested in research, which it initiated and encouraged by means of subsidies to experts or to institutions.

The administration of the Institute was under the committee which controls the work of the permanent office. Administrative and financial reports were furnished every year and submitted to the inspection of special commissions. For by-laws, see Appendix 1.

MILITARY RELATIONS WITH THE INSTITUTE

The Supreme Headquarters Allied Expeditionary Force (hereafter designated as SHAEF) directed that the control of the spread of animal diseases among the civilian population and the livestock following the invasion and liberation of Europe would be carried out by the Veterinary Service of Civil Affairs, Military Government (G-5).

Although the existence of the International Institute of Epizoötics was recognized, information on its status and effectiveness during the German occupation was not available. In order that all epizoötic

This is an account of the organization and program of the International Institute of Epizoötics, Paris, France, prior to the war, and the relationship of the veterinary service of G-5 Supreme Headquarters Allied Expeditionary Force and later the United States Forces, European Theater, with the Institute in aiding in the reëstablishing of its service from 1944 to 1946 during which time the author was Veterinary Consultant, Public Health Division, G-5, SHAEF and USFET.

conditions that might appear on the continent could be handled successfully, it was planned to organize an emergency program which would function until the former organizations were contacted to determine if they could carry on with their disease con-

trol programs.

Thus, prior to D-Day, it was strongly recommended that, in view of the dangers to animal and indirectly to human health likely to arise in Europe in the period immediately following liberation, the governments of the United Nations in Europe should enter into an emergency international veterinary convention and set up a central veterinary board to serve as machinery for consultations and agreement on measures dealing with international veterinary problems and for collaboration on these problems with the military authorities and with UNRRA. In August, 1944, an Emergency International Veterinary Convention was prepared by the agricultural attaché, U. S. Embassy, London, and (See Appendix 2). the author.

It was not proposed that the International Veterinary Convention and Board should be of a permanent character but that they should cover the period of emergency only and should later give place to the normal bilateral trade conventions covering matters of animal health and to the resumed activities of bodies such as the International Institute of Epizoötics.

Shortly after arriving in France, in 1944, the writer visited the office of the director of the International Institute of Epizoötics. The Institute was found to have functioned in a very limited manner under German direction during the occupation. Communications between the European countries were lacking during this period of German supervision. It was thought that if this organization could be assisted and its activities reëstablished, an effective international program of disease control would be brought about more quickly than by initiating a new organization under an emergency convention. This procedure was adopted with satisfactory results.

At a conference with the director of the Institute (Prof. E. Leclainche), the interests and activities of this organization were discussed and the methods and types of services that could be rendered by the Veterinary Service, G-5, SHAEF, were explained. The office of the director submit-

ted a written request to G-5, Public Health Branch, SHAEF, for such assistance. Upon the approval of this request, the Veterinary Service of G-5 took the initial and necessary steps to help in reëstablishing the operations of this Institute. This aid included:

a) Acquiring current information on animal health and disease outbreaks from the liberated countries and the occupied areas and immediately sending it to the Institute.

b) Keeping the governments of those countries informed of current conditions inside

their neighboring states.

c) Reëstablishing the systems within the liberated countries of immediately reporting outbreaks of notifiable animal diseases.

d) Encouraging the publishing of records of statistics at regular intervals.

e) Coördinating the veterinary services of the different countries of Northwest Europe in a combined effort for disease control.

f) Keeping the governments informed of the potential dangers of animal diseases that existed in other parts of the continent.

g) Aiding in working out methods of disease control in the different countries using the facilities available, including reëstablishing sources of supply for biological products.

Under German occupation and censorship the exchange of vital statistics between the countries of Western Europe was limited and almost nonexistent as far as animal disease records were concerned. Following D-Day, civilian communications were at a stand-still and the conditions existing within each country itself were not known. Because of this, rapid reporting of disease outbreaks was extremely difficult. Military communication facilities were used for emergency conditions and information gathered and turned over to the civilian authorities as well as to the International Institute.¹

The International Institute of Epizoötics is again operating and should become an important organization in aiding the United Nations to increase the livestock population and provide a better health for both man and animals.

SUMMARY

The International Institute of Epizoötics is an organization which collected and dis-

²Todd, Lt. Col. Frank A.: Veterinary Preventive Medicine in Civil Affairs and Military Government (G-5) in Northwest Europe from D-Day to V-Day, J.A.V.M.A., 110, (1947): 209-212. Paper presented before the Eighty-third Annual Meeting, American Veterinary Medical Association, Boston, Mass., Aug. 18-22, 1946.

seminated current data on the status of animal diseases, initiated, and coördinated research work for contagious diseases of international concern. This organization is an important factor in a successful program of veterinary preventive medicine, disease control, food conservation and increased livestock production.

The Institute and the military, following D-Day, cooperated to achieve mutual bene-

fits.

APPENDIX 1

BASIC BY-LAWS OF THE INTERNATIONAL EPIZOOTIC INSTITUTE

Article 1

An International Epizoötics Office is created in Paris under the jurisdiction of participating states.

Article 2

This Office has no right to interfere in any way with the administration of the different states.

It is independent of the authorities of the country in which it is located.

It deals directly with the higher authorities or the public services responsible in the different countries for the health of animals.

Article 3

At the request of the International Committee (referred to in Article 6) the government of the French Republic will take the necessary steps to have the Office declared a public service agency.

Article 4

The main objects of the Office are::

a) To instigate and coördinate all the research work in experiments regarding the pathology or prophylaxis of contagious diseases of livestock, for which international collaboration is deemed necessary.

b) To gather and to call to the attention of governments and their health services the facts and documents of general interest concerning the progress of epizoötic diseases and

the methods used to fight them.

c) To study the drafts of international agreements with respect to the health services for animals and to place at the disposal of the government signatories to those agreements the means to supervise their execution.

Article 5

The governments communicate with the agency:

 By telegraph, they notify the Office of the first cases of cattle plague or foot-andmouth disease discovered in a country or region previously not affected.

 At regular intervals, they forward bulletins set up according to a form adopted by the Committee, giving information as to the presence and extent of the diseases including the following:

Cattle plague [rinderpest]

Foot-and-mouth disease Contagious pleuropneumonia

Anthrax

Sheep-pox

Rabies

Glanders

Dourine

Pig plague [hog cholera]

The governments inform the Office of the measures they are taking, particularly at the frontiers, to protect their countries against shipments from contaminated areas. If possible they forward the information requested by the Office.

Article 6

The Office is under the authority and control of the International Committee consisting of technical representatives appointed by the participating countries, on the basis of one representative per country.

Article 7

The Office Committee meets periodically, at least once a year; the duration of its sessions is not limited.

The members of the Committee elect a president, by secret ballot, for a three-year term

Article 8

The Office is operated by a salaried personnel, consisting of: a director, technical officials, and the employees necessary for the running of the Institute.

The director is appointed by the Committee. The director attends the meetings in an ad-

visory capacity.

The nomination and dismissal of employees of all categories belongs to the director who reports to the Committee.

Article 9

The information gathered by the Office is brought to the knowledge of the participating states by means of a bulletin or by special communications forwarded to them automatically or at their request. Notifications concerning first cases of cattle plague [rinderpest] or of foot-and-mouth disease are transmitted by wire, as soon as they are received, to the governments and to health services.

Furthermore, the Office relates periodically the results of its activity in official reports which are communicated to the participating governments.

Article 10

The bulletin, which appears once a month at least, includes in particular:

 The laws and general or local regulations concerning the contagious diseases of livestock, promulgated in the various countries.

2) Particulars concerning the progress of infectious diseases of cattle,

- 3) Statistics concerning the health conditions of the world livestock.
 - 4) Bibliographic information.
- 5) French is the official language of the Office and of the Bulletin. The Committee may decide that parts of the Bulletin will be published in other languages.

Article 11

The expenses for the functioning of the Office are covered by the participating states and by those who may join later. Their contribution is set according to the following categories:

1st category on the basis of 25 units 2nd category on the basis of 20 units 3rd category on the basis of 15 units 4th category on the basis of 10 units

5th category on the basis of 5 units 6th category on the basis of 3 units

on the basis of 500 francs per unit.

Each country is free to choose the category to which it wants to subscribe. It is always possible later on to subscribe to a higher category.

Article 12

A sum for the setting up of reserve funds is deducted from the annual resources. total of this reserve which cannot exceed the entire class amount of the annual budget is invested in first-class government stock.

Article 13

Out of the money allocated for the Office, the members of the Committee receive an allowance for traveling expenses. Moreover, they are given a voucher for each meeting they at-

Article 14

The Committee determines annually the amount to be deducted out of its budget to provide a retirement pension for the office personnel.

Article 15

The Committee draws up its annual budget and gives its approval to the expense report. It lays down the basic regulations for the personnel as the rules necessary for the running of the Office.

This regulation, as well as the provisions, are transmitted by the Committee to the participating states and cannot be changed with-

out their approval,

Article 16

A report of the administration of the funds is presented yearly to the participating states at the close of the year.

APPENDIX 2

EMERGENCY INTERNATIONAL VETERINARY CONVENTION

With a view to protecting human health, to safeguarding the food supply from animal sources, and to preventing the spread of animal disease under conditions incident to and following military operations, the governments of

a) to cooperate with, and to render all assistance required by, the Allied Military Forces in respect to veterinary affairs, and

b) to establish a Central Veterinary Board which shall serve as machinery for consultation and the reaching of agreement between themselves on measures for dealing with international veterinary problems during the war and the postwar emergency period, and

c) to adopt within their own boundaries veterinary measures calculated to reinforce such recommendations of an international character as may be made by the Central Veter-

inary Board, and

d) to support, and to render such assistance including technical personnel and services as may be needed by the Central Veterinary Board in the discharge of its functions, and

- e) to work out with UNRRA, in consultation through the Central Veterinary Board, such international veterinary measures as may require the assistance of UNRRA either in respect to veterinary supplies or technical personnel, and
- f) to cooperate with and assist each other in the pursuit and enforcement of emergency veterinary measures made necessary by abnormal conditions of livestock health and wartime disorganization; and
- g) to adopt such measures or precautions as may be recommended by the Central Veterinary Board in connection with any importation of livestock, especially from non-European sources of supply.

FUNCTIONS OF THE CENTRAL VETERINARY BOARD

a) The formulation of and agreement upon common policies to be pursued in respect of veterinary measures by the countries participating in the Board.

b) The collection of scientific information on veterinary affairs, and the formulation of technical recommendations to participating countries about measures necessary to prevent and control livestock diseases under existing conditions, especially the control of frontiers and

the transport of animals.

c) The collection and dissemination to participating countries of reports regarding incidence of communicable livestock diseases, the national and international movement of livestock, and the enforcement of existing laws and regulations pertaining thereto in the countries represented on the Board.

d) The collection of information on the availability of veterinary personnel and veterinary supplies for use in combating epizoötics which may appear from time to time.

e) The collection and dissemination of information which would aid in controlling or preventing transmission of diseases of animals to man.

Observations on an Outbreak of Encephalomyelitis in Panama

JAMES H. STEELE, D.V.M., and KARL HABEL, B.A., M.D.

Washington, D. C.

AN OUTBREAK of equine encephalomyelitis began in the province of Herrera in western Panama in July, 1946. The epizoötic continued in horses until December, 1946, when the rainy season subsided. Approximately 500 equine deaths were reported to provincial veterinarians. There were some suspected human cases in the affected area but none was confirmed by serologic methods.

DISTRIBUTION OF ANIMAL CASES

Herrera is approximately 100 miles southwest of Panama City, the capitol of the Republic of Panama. It lies on the eastern coastal plain of the Azuero Peninsula. The rivers of this province flow to the east and southeast from the highlands. During the rainy season from May to December the rivers are high, water stands in the fields, and rivers and ditches are filled. The raising of livestock and sugar cane are the principal agricultural pursuits.

In 1945, a few clinically diagnosed cases of equine encephalomyelitis occurred in the Veraguas Province northeast of Herrera Province. Sporadic cases were reported throughout the 1945 rainy season. The 1946 rainy season began early in May. The first case of equine encephalomyelitis was reported July 17, 1946, in Correa about 25 miles north of Chitre. The epizoötic spread rapidly south and southeastward engulfing the towns of Potuga, Paris, Parita, Portobelillo, Monagullo, and Santa Maria. The local veterinary officials estimated that 300 horses died in this area during July. In August, the disease continued its general southward course except for a small outbreak which appeared at El Cano in Cocle Province about 50 miles north of the epicenter. Fortunately, this new trend did not continue or the heavily populated area around the Panama Canal would have been threatened. In August, the cases reported dropped to 40.

During September, the disease moved south into Los Santos Province appearing at La Arena near the towns of Chitre and Los Santos. Forty-five cases were reported. In October, 16 cases were reported, mainly in Los Santos Province as far south as the town of La Espigodilla and Guoyabal. November brought

a considerable increase of cases in Los Santos Province; 75 cases were reported. The epizoötic extended south to include the towns of Las Tablas, Sabana Grande, Los Cruces, La Yeguada, and Marcaracas.

It was not until November that the Panama Health Department was informed that this epizoötic was occurring. This was explained by the lack of liaison between the agricultural veterinary officials and the health department. Due to clerical errors, the veterinary reports were filed as routine information and no reports were sent to the health department.

TABLE I—Estimated Number of Horses that Died of Encephalomyelitis

Month	Herrera	Province Colce	Los Santos
July	300		
August	30	10	
September	38		7
October	3		13
November			75
	-	-	
	371	10	95

About 40 per cent of the untreated animals died as compared with only 15 per cent of the treated cases.

There are other equine illnesses that may be confused with encephalomyelitis. The most common of these is the trypanosomiasis, especially that caused by Trypanosoma hippicum which is transmitted by vampire bats (Desmodus rufus) and blood-sucking flies (Tabanidae). This disease can usually be diagnosed by blood smears which reveal the trypanosomes. Clinically, the disease is differentiated by emaciation, icterus, and slow progressive decline. Death usually occurs after several weeks or months.

HUMAN CASES

During October and November several human beings who appeared to have symptoms of encephalitis were hospitalized. Three of these were from Santa Maria. Clinically, they appeared to be encephalitis as evidenced by drowsiness, dullness, and general malaise. Other suspected human cases were observed including 3 at David in northern Panama and 1 at the Gorgas Memorial Hospital. The latter cases were not thought clinically to be encephalitis but did have some central nervous system symptoms. All of the above 7 cases were negative on serologic examination for neutralizing antibodies.

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ANIMAL CASES

The horses that were ill showed typical encephalomyelitis symptoms of depression, aimless walking in circles, downward drooped heads, and progressive paralysis. Death occurred within a few days after these symptoms appeared. In the equine cases observed, the temperature was normal.

No virus was recovered from the blood of 2 horses while they were alive nor after they were sacrificed. The virus later was recovered from the brain of 1 of these animals.

Microscopic examination of the brain and cord tissue of the animals autopsied revealed* the following diagnosis:

Horse	1	1.						. 1	n	3	14	20	i	i	c	encephalitis
Horse		2														encephalitis
Calf .																encephalitis

The horses sacrificed were native animals. Horse 1 was a native male, $3\frac{1}{2}$ years old, weighing 400 lb. This horse was ill three days and was barely able to rise when sacrificed. Temperature and pulse were abnormal the first day it was observed.

TABLE 2-Physical Findings of Horse I

Day	Temp.	Pulse	Respiration
1	39 C.	58	17
2	38 C.	60	20
3	37.9C.	43	18

Normal physical findings of a horse. Temperatures 37.8 C., pulse 32 to 46, respiration 8 to 16.

Horse 1 came from a farm near Las Tablas. No other horses on the same farm were ill, and the nearest case was 5 miles distant. This horse was sacrificed. The brain was removed and part of it fixed for pathologic examination; the remainder was ground, filtered, and injected into mice. Blood serum also was injected into mice. The mice showed no evidence of encephalomyelitis. Further mice passage was attempted, but no virus could be demonstrated.

CHITRE, HORSE 1-PATHOLOGIC EXAMINATION

Grossly negative.

Microscopic.—Level 1, frontal cortex. Two sections. Meninges showed slight to moderate meningeal exudate, serous or seropolymorphonuclear, one small clump of three multinucleated giant cells in white substance, one focus of perivascular edema and marked lymphocyte infiltration. In the second section there was also patchy serohemorrhagic and seropolymorphonuclear leucocytic exudate in meninges. Focal perivascular lymphocyte infiltration and lymphocytic and polymorphonuclear infiltration was seen, one focus of cellular gliosis,

and one meningeal fissure contained considerable agglomeration of polymorphonuclear leucocytes.

Level 2, slight irregular lymphocyte and polymorphonuclear infiltration of meninges, one focus of cellular gliosis with few polymorphonuclear leucocytes in the molecular layer. Second section of level 2, moderately numerous foci of dense perivascular lymphocyte infiltration containing few polymorphonuclears in white and gray substance, one focus of cellular gliosis, few polymorphonuclear leucocytes in the molecular layer. Otherwise, few other focal glioses

Level 3, irregular lymphocyte infiltration of meninges, focal perivascular lymphocyte infiltration, focal cellular gliosis in anterior perforated substance, focal dense perivascular lymphocyte infiltration in the base of lenticular nucleus and in the internal capsule. Two clumps of multinucleated giant cells in lateral portion of caudate nucleus. Second section of level 3 showing internal capsule, genu of corpus callosum, there were numerous foci of vascular endothelial swelling and proliferation, adventital proliferation, dense lymphocyte infiltration in the genu, few similar foci in the corona radiata of the dorsal frontal cortex. One focus of cellular gliosis and lymphocyte infiltration, few polymorphonuclears also. There was moderate irregular lymphocyte and slight polymorphonuclear infiltration of the meninges dorsally.

Level 4, moderate lymphocyte infiltration of meninges, moderately numerous foci of slight to marked perivascular lymphocyte infiltration with or without fragmenting of polymorphonuclear leucocytes and a few multinucleated giant cells and epithelioid cells, vascular endothelial swelling in the anterior perforated substance, more in the internal capsule, moderately numerous in caudate and lenticular nuclei and subcallosal gyrus and striae olfac-The claustrum toria medalis and lateralis. showed moderate numbers, the corpus callosum numerous lesions, the cingulum none, dorsal cortex a few in gray and white substance. Meningeal lymphocyte infiltration moderate.

Level 5, few similar foci of dorsal cortex, numerous in corpus callosum, few in temporal cortex and amygdala, none in optic tract, moderately numerous in anterior perforated substance, globus pallidus, putamen, few in internal capsule, insula, and lateral thalamic nucleus, moderately numerous in anterior thalamic nucleus, numerous in anterior perforated substance, moderately numerous in hypothalamus, moderate numbers of focal glioses accompanying vascular lesions.

Level 6, moderately numerous foci in thalamus, few in substantia nigra, none in peduncle or hippocampus, or temporal cortex, either dorsally or ventrally. Moderately numerous in lateral cortex, none in putamen. Chorioid plexus of lateral ventricle negative. Moderately numerous foci in corpus callosum, new in corona radiata or dorsal cortex.

Level 7, few similar foci in corona radiata and corpus callosum dorsally. Few in temporal cortex. None in hippocampus. Very

^{*}Dr. R. D. Lillie, chief, Pathology Laboratory, National Institute of Health, U. S. Public Health Service, examined the section. The pathological reports are attached.

numerous in anterior quadrigeminate with much vascular endotheliosis, balance of mid-brain and thalamus showed moderate numbers; ventral portion was mutilated, however.

Level 8, three sections of occipital cortex, few foci of perivascular lymphocyte infiltration, focal cellular gliosis in gray and white substance.

Level 9, midbrain. Few foci of modern peri-vascular lymphocyte infiltration, focal cellular gliosis in anterior quadrigeminate, none in third or red nuclei or substantia nigra, few in lateral tegmental region. Second section, similar. Third section, showing fourth nucleus and anterior portion of mesencephalic fifth, there was a bulky granuloma composed of giant cells, lymphocytes, fragmenting polymorphonuclears, vascular endotheliosis, and epithelioid cells in periaqueductal region.

Level 10, pons at posterior quadrigeminate—egative. Cerebellum—moderately numerous small foci of vascular endotheliosis, focal cellular gliosis, perivascular lymphocyte infil-tration, moderate numbers of giant cells, some of which were isolated and some occurred in small nodules. Dorso-median cerebellar cortex showed more numerous foci, and also moderately numerous foci of perivascular lymphocyte infiltration and karyorrhectic polys, some epithelioid and giant cells. Lateral cerebellar area showed few focal lesions; moderate lymphocyte infiltration was seen in cerebellar meninges.

Level 11, pons. One focal gliosis in pons; no lesions in tegmentum. Cerebellum-numerous bulky foci in central cerebellar area, moderate numbers in arbor vitae, molecular and granular layers. These were moderate lymphocyte infiltration in meninges of cerebellum. The giant cells contained centrally clear, moderately broad filaments with deep blue stain-

ing walls.

Level 12, medulla and pons in the vestibular area showed bulky confluent lesions, partly purulent, partly lymphocyte infiltration, numerous giant cells, much vascular endothelial swelling, much proliferation of fusiform epi-thelioid cells. The rest of the medulla and pons showed few to moderately numerous foci of perivascular lymphocyte infiltration, focal

cellular gliosis, and vascular endotheliosis. Level 13, few to moderately numerous foci of perivascular lymphocyte infiltration, focal cellular gliosis in cerebellum. Two sections. Chorioid plexus negative.

Level 14, posterior vermis of cerebellum showed moderately numerous foci with giant

TABLE 3-Physical Findings of Horse 2

Day	Temp.	Pulse	Respiration
1	38 C.	60	20
2	38.5C.	72	70

This horse had been at the Chitre Agriculture Station for fifteen days before it became ill. It came from Veraguas Province where no encepalomyelitis was reported in 1946.

Three levels of medulla showed bulky area of partly purulent granulating lesion in the vestibular area and occupying perhaps dorso-lateral half to third of the section. These lesions contained many giant cells.

With the Bauer stain there were quite numerous solid, dark red-purple granules, oval, round, small to medium in size, in purulent areas. These were probably glycogen. In the giant cells there were moderately numerous, rather broad septate hollow mycelia, and round and irregularly shaped vesicles with thin walls staining purplish red with the Bauer. With the Gram-Weigert stain these same mycelia stained deep violet, were chiefly in the giant cells. The globular formation appearing with the Bauer in the pus were absent with the Gram-Weigert.

Pineal gland negative.

Diagnosis.-Mycotic encephalitis.

Horse 2 was a native male, 51/2 years old and weighed 600 lb. This animal showed symptoms only forty-eight hours before it was sacrificed when it was in extremis. Physical findings were recorded.

The brain was removed and part preserved for histopathologic examination. The remainder was used to inoculate mice. Blood serum was also injected into mice intracerebrally. The mice receiving blood serum remained normal. The mice receiving brain filtrate began showing signs of encephalomyelitis on the fourth day after intracerebral injection. A number of mice died on the fourth day, and from these and those sacrificed later the encephalomyelitis virus was isolated. The virus was identified as eastern equine encephalomyelitis.

The virus was not isolated from any other animals or insects. Although other horses and animals were bled, a calf was sacrificed, ticks (Ixodidea) and mosquitos were collected, none of these sources yielded the virus.

A horse mosquito trap was set up nearby and the following mosquitos† collected: Aedes taeniorhynchus, Aedes aegypti, Anopheles albimanus and Mansoni species. The mosquito catch was light as the rainy season was ending and ground water was drying rapidly.

CHITRE, HORSE 2-PATHOLOGIC EXAMINATION

Grossly negative.

Brain was much fragmented and the material consisted chiefly of cerebral cortex. There were numerous foci of dense perivascular lymphocyte infiltration in gray and white substance, irregular diffuse gliosis, in gray sub-stance. In two levels of what was apparently frontal cortex, the perivascular lymphocyte infiltration graded over to a few monocytes and occasional polys. There were numerous deeply stained basophilic globules in white substance apparently near margins which were cut in the raw material before fixation. The significance of these was not clear. Few foci of cellular gliosis were seen in gray and white substance, and there was irregular lymphocyte

Dr. Marcelo Gallardo, chief entomologist of the Panama Health Department, identified the mosquitos.

infiltration with some karyorrhexis in men-

Code 2, three further blocks of cerebral cortex showed quite numerous similar foci, patchy diffuse and focal glioses, much lymphocyte infiltration with some polymorphonuclears in meninges.

Code 3, two more sections of cerebral cor-

tex showed similar lesions.

Code 4, cerebral cortex was similar. Thalamus with cerebral cortex and hippocampus,

moderately numerous similar foci.

Level 5, two sections of midbrain, hippocampus, cerebral cortex, and one ragged fragment of anterior perforated substance were seen. The last showed numerous foci of dense perivascular lymphocyte infiltration and focal cellular gliosis. Midbrain sections were similar to thalamus previously described.

Level 6, cortex and hippocampus and pedunele. Similar foci. Two fragments of pons showed moderately numerous similar foci.

Level 7, hippocampus, midbrain, temporal Moderately numerous similar foci. Another section in code 7 with basal ganglia, anterior perforated substance, corpus callosum, showed numerous foci of dense perivascular lymphocyte infiltration with few monocytes and polymorphonuclears, and sections of cerebral cortex with lateral ventricle showed similar lesions.

Level 8, midbrain, posterior quadrigeminate. Numerous similar foci. Also section of midbrain and thalamus, very numerous foci of perivascular lymphocyte infiltration. Cerebellum, moderate lymphocyte infiltration of meninges, moderately numerous foci of perivascular lymphocyte infiltration. Section of pons, rather doubtfully identified, one large area of dense lymphocyte infiltration, slight endotheliosis, and slight pigmentation, apparently hemosiderin.

Level 9, three sections of cerebral cortex showed quite numerous, quite numerous, and very numerous similar lesions respectively.

Diagnosis.-Encephalitis.

The calf came from a farm near Aqua Dulce which was on the edge of the affected area. It was stated that 200 calves had died in that area of an unknown disease that caused a central nervous system disturbance. There were no clinical signs of encephalitis when the animal was sacrificed. None of the mice injected with the calf-brain tissue developed encephalitis.

CHITRE, CALF 1-PATHOLOGIC EXAMINATION

Grossly negative.

Microscopic.-Level 1, cerebral cortex. foci of perivascular gliosis, few foci of perivascular lymphocyte infiltration of slight to moderate grade, more in white than in gray substance. Slight lymphocyte infiltration of meninges. Second section under same code number (lb.), also cerebral cortex, showed a thick layer of small cell gliosis beneath the ependyma, apparently in the olfactory area. This was probably normal juvenile subependymal gliosis. This lies under the olfactory

tract which is normal. Slight lymphocyte infiltration of the meninges again, and slight to moderate lymphocyte infiltration around scattered perforating and deep vessels.

Level 2a, cerebral cortex, dorsal median. Slight to moderate lymphocyte infiltration of meninges, few foci of perivascular lymphocyte infiltration and focal cellular gliosis in white substance. Irregular subependymal gliosis, none in some areas, very marked in others. intermediate in others. Second section of level 2 showing caudate nucleus, corpus callosum, internal capsule, lenticular nucleus, olfactory striae, basal cortex, and olfactory tract. There was irregular subependymal gliosis, probably again of the normal juvenile type, one focus of perivascular gliosis and lymphocyte infiltration in the anterior perforated substance. Moderate pericellular vacuolation in the olfactory striae. Moderate amount of satellitosis of single glia cells about pyramidal cells. No Negri bodies.

Third block from level 2, dorsolateral cor-tex. Few foci of moderate perivascular lymphocyte infiltration, slight to moderate lympho-

cyte infiltration of meninges.

Level 3, dorsomedian cortex, corpus callosum. Slight lymphocyte infiltration of meninges and few foci of perivascular lymphocyte infiltration and perivascular gliosis in white and gray substance. Second section of level 3, caudate nucleus, internal capsule, globus pallidus, putamen, basal cortex, anterior per-forated substance. Moderate subependymal gliosis and perivascular lymphocyte infiltration over the caudate nucleus. The base showed the posterior part of the chiasma, the infundibulum and the pars nervosa and media of the hypophysis. These were negative. The third section of level 3 was lateral cortex with slight lymphocyte infiltration of meninges and few foci of perivascular lymphocyte infiltration and focal gliosis.

Level 4, dorsomedian cortex and corpus callosum. Few foci of perivascular gliosis in white substance, one focus of slight perivascular lymphocyte infiltration in gray substance. Second section showed subependymal gliosis over the caudate nucleus, one focus of vascular endotheliosis and perivascular gliosis in the anterior thalamic nucleus. No lesions in the peduncle or hypothalamus. Section showing temporal cortex and hippocampus, globus pallidus, putamen, and insula showed one focus of perivascular gliosis, vascular endothelial proliferation in insula. Moderate subependymal gliosis in the dorsalateral part of the

ventricle. No Negri bodies.

Level 5, lateral and median geniculate body. Cerebral cortex, few foci of perivascular lymphocyte infiltration of moderate grade and slight perivascular gliosis in white and gray substance. Lymphoctye infiltration of meninges. Hippocampus showed no Negri bodies. Temporal cortex was negative.

Level 6, showing mammillary bodies, peduncle, substantia nigra, red nucleus, medial geniculate and hypothalamus and hippocampus. No

lesions.

Level 7, cerebral cortex. Few foci of slight perivascular lymphocyte infiltration, moderate

lymphocyte infiltration of meninges. Second section, about the same. Third section, similar. These were probably occipital cortex.

Level 8, midbrain at third roots with substantia nigra, red nuclei, and third nuclei. The periaqueductal gray substance showed some bulky foci of hemorrhage. Otherwise no lesions in the main nuclei or in the anterior quadrigeminate bodies.

The next level at the decussation of the brachia conjunctiva showed few foci of cellular gliosis dorsally in the quadrigeminate, one focus of slight perivascular lymphocyte infiltration in periaqueductal gray substance, no lesions in substantia nigra.

Level 9, showing midbrain, posterior quadrigeminate body, border of pons with mesen-

TABLE 4—Presence of Antibodies to Eastern Equine Encephalomyelitis Virus in Panama Serums

Encephalomyelitis	Virus in	Panama Serums	
	Farm 1 Total	Pos.	Neg
Human	4	0	. 4
Normal	1	1	0
Recovered	0		0
	1	17	0
Dog	5	0	5
Chicken		0	
	Farm 2	-	
Human	2	0	2
Normal	1	0	1
Recovered	1	1	0
Dog	1	0	1
Chicken	3	1.7	2
	Farm 3		
Human	. 1	0	1
Normal	2	2	0
Recovered	1	1	0
Dog	2	0	2
Chicken	4	0	4
hand he was	Farm 4		
Human	2	1	1
Normal	2	1	1
Recovered	1	1	0
Dog	1	0	1
Chicken	5	0	5
	Farm 5		
Human	2	0	2
Normal	2	1	1
Recovered	1	1	0
Dog	1	0	- 1
Chicken	3	1	2
	Total	E 14 - 15	
Humans	11	1-1	10
Normal	8	5	3
Recovered	4	4	0
Dog	6	1?	5
Chicken	20	2	18
THE RESERVE	20		10

cephalic fifth nucleus, and another level closely placed to that, possibly a little further back, also no lesions. Section of cerebellum, slight irregular lymphocyte infiltration of meninges, slight cellular gliosis in molecular layer. Purkinje cells normal or partially depleted. No necrotic cells. No Negri bodies.

Level 10, pons and cerebellum, with central nuclei. Occasional lesions again in cerebellar

cortex; otherwise negative.

Level 11, medulla enlargement. Three sections-no lesions.

Level 12, medulla at decussation of pyramids with two levels, one with lateral and medial eleventh nucleus and descending trigeminus, the other with anterior horn and descending trigeminus-negative.

Two levels of spinal cord negative.

Diagnosis. - Encephalitis, chiefly cerebral

Serum samples were obtained from human beings and animals on five farms distributed through the epizoötic area. All the farms had had sick horses on the premises, which were clinically diagnosed as having encephaloymelitis. The results obtained are shown in table 4

Eleven persons were tested for the presence of antibodies to eastern equine encephalomyelitis. Only 1 was found to have the antibodies. He had no history of recent illness. Twelve horses were bled, of which 8 were thought to be normal animals with no previous symptoms of encephalomyelitis. Five of these 8 normals had evidence of eastern equine encephalomyelitis antibodies. The other 4 horses were animals that had recovered from frank clinical encephalomyelitis. Six dogs were examined for neutralizing antibodies. Of these, 1 dog gave a weakly positive test, and this one positive result was not conclusive. Of 20 chicken blood samples obtained, 2 were positive. These were from two different farms. The positive chicken serum from farm 2 was only weakly positive whereas that from farm 5 was definitely positive.

Attempts were made to obtain blood serum from buzzards, but no birds were caught or in a spicer ren

CONCLUSIONS

Eastern equine encephalomyelitis is present in the Republic of Panama. The epizoötic of 1946 appears to have had a precursor in the enzoötic of 1945 in Veraguas Province. The outbreak started in the northern part of Herrera Province, which borders on Veraguas, and spread south and southeastward. The prevailing winds are from the interior, blowing from northwest to southeast. The only deviation from the trend is the outbreak at El Cano. This focus may have been established by the movement of animals in the prodromal phase or by infected insects being carried from the affected area.

The epizoötic began about sixty days after the rainy season began and subsided in October when the rain was less intense. In November, it rose precipitously with the recurrence of heavier rain and a larger mosquito population. The peak of the cases occurred when most mosquitos were present.

Horses were the largest animal group infected. It was estimated that 500 animals died of encephalomyelitis and there may have been two to three times that many cases. Evidence was found that chickens were exposed to the virus and formed antibodies against the organism. One dog was found that had weakly positive serum. This dog with evidence of eastern equine encephalomyelitis antibodies is the first canine reported as probably having had the virus in the body.

A number of human cases were reported, but on investigation none gave any serologic evidence of exposure to virus. Two human cases had died. Examination of the brain showed no evidence of the histopathology characteristics of encephalomyelitis. In the extreme western part of Panama at the town of David, there was a poliomyelitis outbreak. Blood serums were drawn from 3 human cases at David. These were negative for eastern equine encephalomyelitis antibodies. There was no report of encephalomyelitis in animals in the area of David or Chiriqui Province.

There will probably be recurrences of encephalomyelitis outbreaks in the Republic of Panama with the return of the rainy season. These will be limited to the Azuero Peninsula except for the movement of infected animals and insects by man. Such a movement toward the Panama Canal Zone may establish the disease in the heavily populated areas around the Canal. The epizoötics will subside most likely with the end of the rainy season.

RECOMMENDATIONS

To prevent the spread of eastern equine encephalomyelitis, all horses in the Republic of Panama should be immunized annually. Horses that have been ill do not have permanent immunity and must be reimmunized. Even with widespread immunization, there will be sporadic cases for a few years.

The second point of attack to prevent human cases is the control of mosquitos and other insects. This should include the use of DDT in homes, around stables, and in dusting swamps and fields. Screening, oil, and Paris green are also useful supplementary aids.

The third approach is quarantine. All horses, mules, and other equidae entering the Republic of Panama should be immunized against the type of encephalomyelitis prevalent in country of origin or countries en route. They should also be inoculated against eastern equine encephalomyelitis before entering Panama or vaccinated when they enter and be held in quarantine for fifteen days.

SUMMARY

- 1) An outbreak of encephalomyelitis is described in the Republic of Panama.
 - 2) The virus was found in a horse.
- 3) Antibodies were found in horses, man, chickens, and possibly in a dog.
- The disease will probably recur in the Republic of Panama and may threaten the Panama Canal Zone.
- Recommendations for control are immunization of all horses in the country, mosquito control, and foreign quarantine measures.

Veterinary Medicine in Fur Farming

If the amount of space devoted to veterinary subjects in a nonveterinary magazine can be a criterion, then there is plenty of evidence that the efforts of the veterinary profession are appreciated by the fur-farming industry.

In the October, 1946, issue of The National Fur News, there are three articles to remind the growers of precious furs about the place of veterinary science in their problems. The first, written by a veterinarian, is a long and comprehensive article dealing with food poisoning. This piece of work by Dr. A. M. McDermid is well done. and the editors of Fur News apparently thought so too, as they made it the leading article of the issue. The second, headed "Fur Farming Work Transferred to U. S. Department of Agriculture," tells the ranchers that they can now look to the Bureau of Animal Industry for help in combating diseases of captive fur animals, this agency having taken over that work from the Fish and Wildlife Service. The third, labeled "Important Announcement," tells of a new veterinary service-comprising diagnosis, education and research-now being offered to fur farmers by the Colorado State College, Division of Veterinary Medicine.

Historical Sketches and Memoirs

IV. Organized Veterinary Medicine (Continued)

L. A. MERILLAT

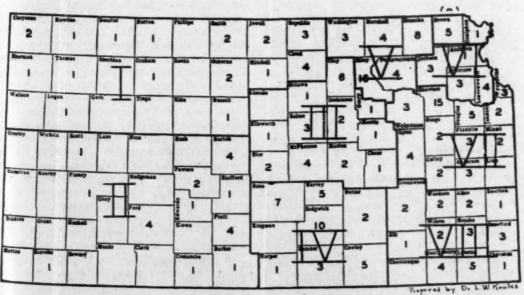
Chicago, Illinois

10.

Before screening the forgotten past for facts about the evolution of the veterinary medical associations of the present time, let's look at "what Setup have you." The present state Incomplete of affairs is only beginning to approach the long sought state of completeness envisaged by leaders in the nineteenth century, who watched the struggles of the medical profession in this connection and strived to profit by its experience. In principle, the county (or other local) society is the important unit of the organized physicians. The local unit is securely chained to the national through the intermediary of the state society and is, therefore, the governing factor—the factor that integrates a democracy as perfect as the individual members will to make it. Slowly and almost unconsciously, the veterinary profession is building a similar confederation. The clubs and locals of New York, Pennsylvania, Indiana, Iowa, and

Illinois were the pioneers of the movement toward the present incomplete linkage of these worthwhile societies to a nation-wide power like the AVMA of 1947. The Chicago and New York municipal societies of the 1890's, the Keystone of Philadelphia, and the locals of undeclared jurisdiction of the Middlewest, South, and Pacific Coast have long signalized the coming of complete organization of the veterinary profession. In other words, the predictable future in the nineteenth century is coming to pass in spite of (un)direction. There but remains to outline the jurisdictions of the locals and fuse them to the state constituents of the AVMA under a financial code to be determined.

What I am attempting to say is that the local veterinary medical associations of the United States have done more than hold summer picnics, dinner sessions, and spectacular clinics. Whether they think so or not, the members of the locals are get-



Pattern for the apportionment of states for the organization of the veterinary profession—the eight districts of the Kansas Veterinary Medical Association.

ting themselves blended inseparably into the over-all organization. Hats off to the Kansas Veterinary Medical Association. the first to organize itself into legally constituted district societies (see figure), each authorized to elect delegates to represent it at the constitutional meetings of the

parent association.

If the movement to organize the whole profession in this fashion, as intended more than fifty years ago, were flashed across a movie screen it would be easier to understand than the drab pages of half-true history, stretching over a long period. There are untold frustrations, discouragements, and sorrow that can not be related understandingly. The screen would portray the state associations treated as business competitors of the AVMA rather than as agents of progress, so outstandingly so that resident state secretaries were planted in every state and territory as if to show the state associations who's who in their neck of the woods. Who of this day is aware that the resident-state-secretary system, right from the start, was viewed, out here, as a nonworkable subterfuge for the bona fide nationalization of the AVMA and a slam at the state associations. The duties. of these planted officials (I was one of them for some years) were never sharply defined. The intent was to make the Association seem national. An amendment as late as 1942, in police jargon, puts these local officials in the position of stooges directed to report on what the state associations were up to. Obviously, the duties laid down in the revised by-laws were not a pleasant he-man's job and perhaps too vague to obey. It violates the first principle of intercourse between the command and the commander—the single channel of communication, in this case, between the field and the central office over the heads of the constituent associations. In fact, based upon recollections of the long past, when these state officers dodged the main issue of recognizing the state societies as components of the national, I trust I shall be permitted to say that the resident-statesecretary system ought to be abolished as a relic of bygone days and forever forgotten. While filling that office for Illinois when it had the largest of the state associations and the biggest membership in the AVMA, I was never asked to participate in the AVMA councils. My job was to drum up business-members.

Thirteen years (1934-1947) were to elapse before it could be said that the representation in the councils of the AVMA was practically complete and the enthusiasm quite general. One province of Canada still holds out for reasons not of record.

A prominent New Yorker asked (as a matter of information) at the Cincinnati (1947) meeting what, besides personal opinion, was my basis for stating (insinuating, he thought) that the AVMA was opposed to the development of state associations. The answer is pretty much a case of actions speaking louder than words. Perhaps marching in, or watching, the passing parade of state associations since the 1890's accounts for bringing up the fact that cooperating whole-heartedly with state associations is still unfinished business. It took about fifty years of the sketchy annual work one could do in the AVMA to bring about the present state of consolidation. A new constitution providing for the affiliating of the state organization was unanimously adopted at the New York meeting of 1913, was illegally stopped from being put into operation by the executive branch, and the constitutional revision of 1918 met the same fate until 1933. Since then, the direction has been rapidly upward. No, my friend, this is not a whim and it is brought up and stressed now as a warning because the job is not yet complete. The state associations are just beginning to maneuver themselves into the passing parade of organized veterinary medicine, and the AVMA will not attain the greatness it hopes for until they take command of the procession. That, of course, is opinion but listen, my good friend from Manhattan! When, in 1898, Rush Shippen Huidekoper, wrote the Veterinary Blue Book (see page xi) and listed nearly 300 practitioners registered in the boroughs of New York City, he had to point out, regretfully, that only "two or three practitioners of New York City belonged" to the New York State Veterinary Society. Figure that one out. In the Middlewest, we would have blamed the reactionary leadership in New York that wanted to rule without any aid from the state organizations. The name of that leadership was Liautard who had little influence in the up-state bailiwick of James Law whose chief aim was uplifting education. Yes, sir, emphasizing the wide gap between the state and national associations is still a duty-a warning.

11.

In order that the coming installments of this chapter—Organized Veterinary Medicine—may be made more comprehensive, a reminder of the present structure What of the AVMA ought to be a good You start. The underground movements that long threatened the democratic character of the present national, state, and local organizations have vanished.

Compared with the former frustrated veterinary societies drifting without a pilot to undeclared objectives for so many years, the present situation is indeed complimentary. It would be a major misfortune were the personnel of the profession to forget the whacking victory it has won in very recent years over the long delinquency of the past. The incorporated AVMA comprises the associations of:

the forty-eight states,

the provinces of Canada, save one,

the United States Army,

the U.S. Bureau of Animal Industry,

the Canal Zone, and

Puerto Rico.

Delegates of these associations are the legislative branch. Their voting power varies from 1 to 5, according to the number of members they represent. The executive branch is composed of a president, a president-elect, five vice-presidents, and a treasurer elected from the floor at the annual meeting; an executive secretary and an assistant executive secretary, chosen by the Executive Board of thirteen members, ten of whom are elected by mail ballot for fiveyear terms by the members in each of ten geographic areas (districts), the president, president-elect, and immediate past president (these last three being ex-officio members). Editors are employees appointed annually by the Executive Board.

There is also a Research Council charged with approving the material submitted for publication in the American Journal of Veterinary Research.

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A significant, not-of-record situation was the fact that the AVMA was a "not incorporated" organization from the date of its founding until 1917. During those years, the officers and members, individual and collective, were responsible for the acts and financial obligations of the Association:

damages for personal injury, defamation of character, debts of any nature and size, alleged discriminations against persons or firms, etc. From the early 1890's to 1917, steps to incorporate were discussed by the executive officers and members on the floor of regular meetings only to be defeated year after year through the leadership of W. Horace Hoskins, intrepid champion of moral conduct, who argued successfully that individual responsibility was the best preventive of misconduct on the part of the officers and that incorporation would tend to encourage the commitment of incriminating actions, through carelessness. Sound as that principle may have seemed, the fact remains that the members of a nonprofit professional society should no more be held responsible for the action of their officers than the stockholders of an industrial corporation. So, in 1917, under the presidency of Charles E. Cotton and by his order, the Executive Board under the chairmanship of Veranus A. Moore, and the secretaryship of this writer, incorporated the AVMA under the laws of Illinois.

(To be continued)

U.S.A. on Hog Cholera in the 1870's

Following stinging rebukes by Law (New York) and Paaren (Illinois) on the tremendous losses farmers were suffering from hog cholera, Congress provided for a committee to investigate the disease. The committee appointed was headed by (Dr.) Alfred Dunlap, Iowa City, Iowa, maker of an extensively advertised "specific cure" for that disease, whereupon Dunlap advertised that his appointment was an endorsement of his remedy. Although state veterinarian Paaren and others protested to the Commissioner of Agriculture, Dunlap was retained. And that's that. The curious will find the facts in the December, 1878, issue of the American Veterinary Review.

Quittor.—The word quittor, designating the chronic, fistulous condition on the coronet of horses in the region of the lateral cartilages, is the Middle English term for suppuration. Its more remote source is the Old French word quiture—boiling—which, according to early French authors, was derived from the Latin term, coctura—cooking.

Some Infectious Diseases of Domestic Animals in China. I. Cattle.

CHING-SHENG LO, D.V.M.

Nanking, China

RINDERPEST

Rinderpest is still the most prevalent and most dreaded cattle disease in the rural districts of China. The actual loss is hard to estimate but, in 1943, a severe outbreak occurred in Ching-hai, during which over a million cattle succumbed.

The method of combating rinderpest is by immunization with vaccine. For the past ten years we have used vaccine prepared according to Kelser's method, but the attenuating agent employed is somewhat varied in different serum laboratories. Chloroform, glycerin, and formalin have been used with good results, but no comparative tests have been made to determine which is the best.

In 1944, Dr. E. A. Tunnicliff, adviser to the Ministry of Agriculture and Forestry of the Chinese government introduced the Indian goat virus vaccine (Mukteswar strain). He conducted a limited experiment with about 25 native cattle and water buffaloes at Yungchang, Szechuan. The conclusion is that the animals are solidly immunized after the vaccination, but the reaction is so severe that most of the animals show clinical symptoms of rinderpest, especially in the water buffaloes. It is not considered a safe agent for routine vaccination.

Dr.Y. L. Kwong, then connected with the Research Bureau of Animal Husbandry and Veterinary Science of Kansu, had vaccinated over 1,000 head of cattle, yaks, and "pien niu" (a cross between the native cattle and yaks) with the Indian goat virus in various districts of Kansu (northwest China). The result was very satisfactory, except that the reaction is rather severe in the "pien niu." In passing, it may be mentioned that in Kansu, of the three bovine types, "pien niu" is most susceptible to rinderpest, next the yaks, and the least the native yellow cattle. In the manufacturing of rinderpest antiserum in Lanchow (capitol of Kansu) we found that about 20 per cent of the native yellow cattle were resistant to artificial inoculation of virulent rinderpest virus.

In 1946, UNRRA imported the chicken

embryo vaccine for the immunization of rinderpest in China. No published report of the work has been issued, but the result is gratifying. I venture to prophesy that the chicken embryo vaccine will have a very limited use in China at the present time, chiefly due to the complicated process of production and the rapid deterioration of the product if exposed to heat.

The Japanese workers have developed a lapinized vaccine during the war period, and it is said that the vaccine has been used quite extensively in North China,

In 1946, S. M. Cheng used the "lymph virus" from rabbits and immunized 696 dairy animals in Peiping. According to his report, the vaccinated animals have only thermal reaction, there are no clinical symptoms of rinderpest, the milk secretion is not diminished, and it does not cause abortion in pregnant animals.

Dr. Kwong has also conducted some experiments with the rabbit virus on the native cattle as well as imported animals. He is of the opinion that the lapinized vaccine is superior to the Indian goat virus vaccine. The method of production is simple and the cost is low, and in the future it may be the choice to combat rinderpest.

TUBERCULOSIS

Tuberculosis is rare among the native cattle and carabaos. One may never see a case during his lifetime. But among dairy cows, purebred or grade animals, the disease is of frequent occurrence. According to my estimation, at least 20 per cent of the dairy animals in China are affected with tuberculosis. Some herds may be as high as 50 per cent.

BRUCELLOSIS

Brucellosis only occurs in dairy animals. Dr. C. Elder informed me personally that in a limited test in the Shanghai dairies, the percentage of reactors was about 10 per cent. From 1944 to 1945, Dr. T. S. Sheng surveyed 246 head of native cattle in Chengtu, and no reactor was detected; while among 404 dairy cows in Chungking and Chengtu, only 1 agglutinated in a 1:25 dilution. So he concluded that brucellosis of cattle is practically nonexistent in Szechuan.

Dean of the College of Agriculture, National Central University, Nanking, China.

ENCEPHALOMYELITIS IN CARABAOS

The disease is indigenous to Szechuan. It occurs only in carabaos. I made a case report to the *Chinese Journal of Animal Husbandry and Veterinary Medicine*, January, 1944. At that time I did not recognize that it was a case of encephalomyelitis but used the name given by the farmers "four-leg-cold."

From 1944 to 1945, Dr. Sheng encountered several similar cases and he made a detailed study of the malady. There are several interesting features about this disease: 1) It occurs sporadically. 2) It is not contagious. 3) The mode of infection is unknown. 4) Mortality is 100 per cent. 5) So far as is known, natural infection only occurs in carabaos; no other species of domestic animals has been observed or reported to be affected.

ANTHRAX

Anthrax is prevalent in all parts of China, especially in low-lying districts. The disease usually occurs in the acute form, but peracute anthrax is not uncommon. The symptoms are well known to every veterinarian. Serum treatment is not satisfactory and mortality is extremely high.

CHRONIC MASTITIS

The disease is quite common in dairy cows. It conforms to the description in the standard textbooks. The dairy industry is still in its infancy in China, so the disease is not of much economic importance.

CONTAGIOUS PLEUROPNEUMONIA

It is reported that the disease is found in the Northeast provinces (Manchuria). In 1931, outbreaks occurred in several dairies in Shanghai. It was presumed that the disease was introduced from Harbin.

BLACKLEG

For the past twenty-four years, I have not seen or heard of a case of blackleg in cattle. Only recently I received a report from a colleague in Chengtu, who stated that several cases of blackleg occurred in calves. Anyway, the disease is rare in China.

TETANUS

It is a disease of common occurrence in all parts of China, possibly except the

Sheng, T. S.: Virus Encephalomyelitis in Buffaloes. Science, 103, (1946): 344-346.

Northwest, where tetanus is rarely reported. Cattle and carabaos are susceptible. Tetanus of newborn calves has also been observed.

CALF SCOURS

The disease is quite prevalent in certain dairies where the rules of sanitation and hygiene are not strictly observed. If not properly treated, the mortality is high. The bacteriology of the disease has not been investigated.

HEMORRHAGIC SEPTICEMIA

Hemorrhagic septicemia has been reported from all parts of China. Usually the bipolar organism is found. According to my personal opinion, the disease is usually secondary in nature. It occurs in both cattle and carabaos.

ACTINOMYCOSIS

I have only seen a few cases of actinomycosis in cattle. Then it occurred in purebred or grade dairy animals. Native cattle and water buffaloes are practically free
from infection. This does not mean that
they are not susceptible, but possibly the
organism Actinomyces bovis is not prevalent in nature.

PIROPLASMOSIS

Piroplasmosis is very destructive to imported cattle, especially dairy animals. I have a friend who imported 10 dairy animals from the United States to Nanking in 1922. The whole herd was wiped out in a couple of years. The course is usually acute, but occasionally peracute cases have been observed. One seldom sees a case among the native cattle. It is undoubtedly due to the premunition acquired during the early life.

SURRA

Surra in carabaos has been reported in Kwangtung and the neighboring provinces. Whether the native cattle are susceptible to the disease is still not determined. Carabaos carrying the protozoa usually do not show any symptoms of disease, but if their natural resistance is lowered, such as by the injection of rinderpest virus or the simultaneous inoculation of serum and virus for rinderpest immunization, the disease flares up suddenly, the blood stream swarms with the trypanosomes, and the animal dies in a few days.

SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

Three Consecutive Cases of Sarcoma in Dog

SOL G. STEPHAN, D.V.M.

Cincinnati, Ohio

WITHIN a week I had occasion to treat 3 cases of canine sarcoma. It is strange how rare cases sometimes run in series.

Case 1.—A well-bred English Bull Terrier bitch, 6 years old, seen for the first time March 16, 1947, showed a slight swelling of a month's duration around the right stifle (fig. 1) and severe discomfort and lameness for a week. Believing she had been injured (stifled), the owner had

applied warm baths for a few days without response. The stifle joint seemed to be involved. The swelling was firm and extended around the entire articulation which seemed to be in a state of ankylosis, but blocking the femoral nerve with procaine, 2 per cent, relaxed the whole leg. In the relaxed state one could plainly feel the maximum lesion just below the popliteal region. The x-ray examination (fig. 2) revealed the lesion to be located at the proximal ends of the tibia and fibula. The bursting of the bony elements into the surrounding soft tissues was characteristic of osteosarcoma.



Fig. 1—Swelling around the right stifle of the English Bull Terrier bitch.



Fig. 2—X-ray of right hind leg of English Bull Terrier. X-ray shows that both fibula and tibia are involved at the proximal ends. The bursting out of the bony elements into soft tissues producing severe edema characterizes sarcomatous development.

Case 2.—On the very next day, a 5-yearold Collie, presenting a swelling the size of a hen's egg on the left frontal bone, was brought in. The swelling was firm, warm, and extremely sensitive. The x-ray (fig. 3) showed a positive bone lesion with bony elements permeating the surrounding musculature similar to those of case 1.

Case 3 .- Several days later, a physician brought in a case of the same category,an 8-year-old Doberman Pinscher with a

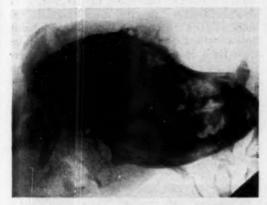


Fig. 3—X-ray of dog skull, showing a plum-sized tumor on the frontal bone composed partly of soft tissue and partly of bony trabeculae suggesting sarcoma.

firm, painful swelling the size of a goose egg, involving the left side of the occiput. The physician agreed that the lesion was likely to be sarcomatous which, on microscopic examination of a biopsy specimen by the physician's technician, proved to be true.

The prognoses of such cases are, of course, grave. In each one of these cases the neoplastic process was rapid. was but to prepare the patients for euthanasia.

Superfecundation.—Twin calves, one a typical black poll and the other a coan with horn buds, were born recently to a purebred dairy Shorthorn heifer. She had been running with an Aberdeen-Angus bull, but nobody had seen her served by him. She was taken out of the field and served by a purebred Shorthorn bull about three days afterward.

I think there can be no doubt that one calf was sired by the Aberdeen-Angus and the other by the Shorthorn.-W. Lang, M.R.C.V.S., in Vet. Rec., July 19, 1947.

Paravertebral Anesthesia

I have my own method of injecting cows to produce paravertebral anesthesia. need six hypodermic needles. I locate the spinous processes of the last thoracic vertebra and the first three lumbar vertebrae.

Then I feel along the spine, exactly on the median line, and try to introduce a needle straight down until I succeed in introducing the needle just posterior to the spinous process of the last thoracic vertebra. The same procedure is followed with the first three lumbar vertebrae.

With these needles in place, the injection is made exactly 2 inches lateral to the needles. My thumb being exactly 2 inches long, I use these four needles as landmarks and can locate the site of injection. A 15-gauge 11/2-inch needle and an 18gauge 4-inch needle are used for the injections. The nerve lies posterior to the transverse process of each vertebra.

After paravertebral injection on each side of the first three lumbar vertebrae, along with pudic (perineal) nerve anesthesia below the vulva on both sides of the median line, it is possible to perform complete amputation of the udder without causing any pain.

I tried this procedure on a cow suffering from toxemia, which the owner and I considered hopeless. She is recovering .-Chas. Haasjes, Shelby, Mich.

A Novel Streak-Canal Slitter

Under the title, "A New Type of Teat Instrument", Reg. W. Hall, M.R.C.V.S. (Vet. Rec., May 17, 1947: 239), describes a so-called streak-canal slitter that he de-



Streak-Canal Slitter

vised for the treatment of "hard milkers." Three, tapering, razor-sharp blades radiate equidistant from the free end of a central shaft which is prolonged slightly beyond the cutting edges of the blades to allow insertion into the canal before the cutting edges enter. The instrument explains the technique.

Exuberant granulation tissue seldom develops in wounds above the knee or the hock. -E. R. Frank, Manhattan, Kan.

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Scrotal Hernia in a Colt*

A colt with a congenital hernia as large as a man's fist at birth was not treated, the owner hoping for spontaneous correction. At 8 months of age, the hernia was



-Veterinary Surgical Clinic, Utrecht.

as illustrated in figure 1. It was found to be unilateral (right) and readily reducible under anesthesia. Castration was performed by applying a wooden clamp and without incising the tunica vaginalis. Three weeks later the wound had healed completely.—J. H. Hartog, Surgical Clinic, Dutch Veterinary College, Utrecht.

An Anomaly of Bovine Fetus

On June 9, 1947, I was called to deliver a calf from a 6-year-old Holstein-Friesian. On palpation of the vagina and uterus, I detected only ribs but after further manipulation recognized a pair of posterior limbs ankylosed at the femoro-tibial joints. Using both hands, I finally worked them to the outside. There were no more apparent obstructions and I had traction applied to the limbs by two men, but to no avail. Upon use of a block and tackle, however, the fetus was delivered (fig. 1). It was a bull and showed no signs of life either before or after delivery.

On examination, the spinal column ended at the last rib leaving the pelvis connected to the body by the abdominal tunic and skin. There were no abdominal muscles. The posterior limbs and pelvis were relatively small in proportion to the anterior part of the body. There was no tail.

On dissection, the first four spinous processes of the thoracic vertebrae appeared abnormally long. The last four thoracic vertebrae were contorted and their bodies, with the exception of the last, were short. The twelfth ribs were fused to the body of the thirteenth vertebra at their necks rather than the usual articulations with their heads. The thirteenth ribs were fused to each other forming a horseshoeshaped bone, and this in turn was attached to the dorsal surface of the posteriorly elongated body of the thirteenth thoracic vertebra. This vertebra ended in a tubercle.

Thus, the anomaly involved agenesia of the lumbar, sacral, and coccygeal vertebrae



and hypoplasia of the pelvis and posterior limbs.

This was the cow's third calf with no history of previous breeding trouble, calving trouble, or retained placenta.—Howard O. Weber, D.V.M. (KSC '43), Simsbury, Conn.

Abortion in Mares

Major B. F. Trum, V.C., U. S. Army (The Blood-Horse, May 24, 1947), observes that over 5 per cent of all pregnant mares abort at an early stage of gestation. "If suspected abortions (mares that were determined pregnant but turned up barren later) are considered, as they most certainly should be, the figure would be nearer 10 per cent," he adds. This includes those which regularly refuse the teasing stallion, only to be found in heat when the season closes.

^{*}Dr. Haasjes, when briefly translating this report which appeared in a recent issue of Tydschrift voor Diergeneeskunde, neglected to give us the month and volume of the Journal.

CLINICAL DATA

Clinical Notes

Pneumonia and diarrhea, when they occur together in shipping fever, present a combination which is almost always fatal.

—A. H. Schmidt, Triumph, Minn.

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Eradication of human brucellosis can only follow successful eradication in animals. It does not spread from man to man.—W. W. Spink, M. D., St. Paul, Minn.

In a study reported from India, cysts of Endamoeba histolytica remained viable for as long as sixty minutes in water containing as much as 10 p.p.m. of residual chlorine.—Biol. Abstr., Sec. E, Apr., 1947.

Coccidiosis.—It is estimated that 1 out of every 8 chicks dies of coccidiosis and that, of all birds dying between 4 and 16 weeks, three-fourths have this disease.—
The Egg Basket, June, 1947.

Following penicillin treatment of a patient afflicted with Chagas' disease in Ecuador, Trypanosoma cruzi disappeared from the blood stream and the patient appeared to have recovered.—Biol. Abstr., Sec. E, Apr., 1947.

Tetrachlorethylene in Oil.—Studies at the Veterinary College in Oslo, Norway, showed that neither the absorption nor the toxic effect of tetrachlorethylene was increased (in laboratory animals) when this anthelmintic was administered in oily solutions.—Biol. Abstr., March, 1947.

Penicillin in Tetanus.—The hope of reducing the mortality of tetanus with penicillin was diminished in a trial by Lewis (Ann. Intern. Med., 25, 1946:903-915) in 15 human cases which showed that the treatment did not alter the course of severe cases.—Abstr. J. Am. Pharm. A., 36, June, 1947:186,

A pullet drinks over 6 oz. of water (100 pullets, about 5 gal.) on a hot day.—
Louisiana Extension News.

Sarcoptic and psoroptic types of mange in rabbits respond to application of 5 per cent DDT in acetone.—Lancet, quoted by Excerpta Medica, April, 1947.

Mice are suspected of being the vectors of the atypical chickenpox cases reported to be prevalent in New York City.—From Am. J. Pub. Health for May.

Laying hens consume about 18 to 20 gal. of water annually, or about 1 qt. to each pound of feed consumed. That means about 6 gal. of water per each 100 hens.—

Poultry Tribune.

Lay veterinary medication is largely a result of inadequate veterinary service—failure to make a careful physical examination and failure to make an accurate diagnosis.—W. R. Krill, Columbus, Ohio.

The quantity of minerals consumed by hens laying heavily is not as much the determining factor of the quality of the shells as the ability of the shell gland to secrete enough shell-building material.

"Tetanus in a Mare"

The following editorial comment to the case report on tetanus in the September issue (page 215) was accidentally omitted: "This was not 'a typical case of tetanus' but obviously one of those common nervous upsets manifested as such. Typical tetanus signifies Clostridium tetani infection which always runs a long course through definite stages. It never yields obediently to a few thousand units of tetanus antitoxin.—The Editors.

The Use of Sodium Sulfamerazine in Foot Rot (Infectious Pododermatitis, Interdigital Phlegmon) in Cattle

FRANCIS T. CANDLIN, D.V.M.

Denver, Colorado

FOOT ROT or infectious pododermatitis is the most frequent cause of lameness in cattle.¹ The etiology is not clear.² Many workers have indicated Actinomyces necrophorus as the causative organism; however, this has been disputed by Beveridge³ and others. Certain factors seem to predispose the animals to the malady, such as wet, muddy corrals, or trauma initiated by walking over gravel, rocks, etc. In this locality, it seems to be more or less seasonal and is most frequently observed in the spring. Cattle on many farms and ranches seem to be plagued each year with this condition.

Until recently, little progress has been achieved in the treatment of the so-called foot rot in cattle. Local treatment with such drugs as copper sulfate, phenol, formalin, iodine, pine tar, and other agents as suggested by Tischhauser⁴ were generally employed. Surgical intervention was often required and, in severe chronic cases, amputation of the claw was frequently necessary.

The widespread use of sulfonamide therapy has revealed certain infections that respond in a specific way to some of these compounds. Farguharson⁵ observed that a single dose of sodium sulfapyridine was specific in relieving the symptoms of calf Kingmanand Stansbury6 diphtheria. found that other infections in cattle due to A. necrophorus also responded to sulfapyridine. They were successful in the treatment of foot rot with local applications of sulfapyridine when frequently applied.

Newton⁷ reported excellent results with one local application of sulfathalidine, phthalylsulfathiazole, or sulfasuxidine, succinylsulfathiazole, after first removing necrotic tissue and establishing good drainage.

A dramatic and new method as a treatment for foot rot was introduced by Forman.⁸ This consisted of one rather large intravenous dose of sodium sulfapyridine. No local treatment or surgical intervention was attempted. Obviously, it had numerous advantages, such as: (1) Time-consuming local therapy was eliminated; (2) the patient was far less irritated as was the administrator of the treatment; (3) recovery was usually prompt and uneventful.

Following the publication of this report by Forman, sulfapyridine became decidedly difficult to obtain. Having experienced the pleasure of administering this efficacious single treatment method, I was not anxious to return to the more difficult and uncertain procedures previously employed.

After considerable investigation regarding a source of supply of the compound, it was brought to my attention by Wiley⁹ that sulfamerazine, one of the pyrimidine derivatives of sulfanilamide, might be equally as effective as sulfapyridine. In addition, therapy with sulfamerazine has several advantages over other sulfonamides.

Jones¹⁰ reported recently that in cattle it was possible to attain and maintain higher blood concentrations with sulfamerazine than sulfapyridine, sulfadiazine, sulfanilamide, and sulfathiazole when the compounds were administered in comparable doses. In his study each compound was given orally to calves at the rate of 0.107 Gm. per kilogram (0.75 gr. per lb.) of body weight.

In comparative studies with sulfamerazine and sulfadiazine, Murphy et al.¹¹ have shown, in man, that smaller doses of sulfamerazine are required to attain and maintain a given blood concentration than when sulfadiazine is used.

Pharmacologic studies in laboratory animals by Welch and his associates¹² have indicated that sulfamerazine is more rapidly and more completely absorbed from the gastrointestinal tract than is sulfadiazine. It also has been shown to be no more toxic on the basis of equal blood concentration of the compounds.

Sulfamerazine possesses also the ability to maintain appreciable blood levels for a much longer period of time following a single intravenous dose.

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Sharpe and Dohme, Medical Research Department, furnished the drugs used in the clinical work reported,

Scheidy¹³ reports average free sulfamerazine plasma concentrations in cattle of 2.7 mg. per 100 cc. at twenty-four hours and 0.7 mg. per 100 cc. at forty-eight hours after the administration of a single dose of sodium sulfamerazine given at the rate of 0.07 Gm. per kilogram of body weight.

The majority of cows treated in this cliniical study were owned by the operator of a large local dairy farm where about 600 cows are maintained. On this farm, foot rot in cattle has been more or less an annual Daily visits were made to the herd so that the progress of the cases could be observed. One method of treatment consisted of the administration of 25 Gm. of sodium sulfamerazine dissolved in 250 cc. of physiologic saline and given as rapidly as a 16-gauge needle would permit, into the jugular vein. No ill effects were noted during or following the injection, nor were any toxic reactions observed at any time thereafter.

A total of 10 cows was treated in this manner. Eight recovered completely without further treatment. One of the cases that failed to respond was found on more careful examination to be suffering from a penetrating type of puncture wound in the foot, and the other cow had been suffering with a lameness of unknown etiology. The latter animal failed to respond also to sodium sulfapyridine and gradually recovered after a period of about two months.

It was noted that alleviation of symptoms of the above mentioned animals during the first forty-eight hours was not as dramatic as when a larger dose of sodium sulfapyridine was given to other similar cases. The entire course of the infection appeared to be slightly prolonged on the average of two days as compared to the control animals that were treated with sodium sulfapyridine. However, uneventful and complete recovery resulted in each instance.

In order to produce a more rapid response, it was decided to increase the dosage of sodium sulfamerazine to 30 to 35 Gm. (approximately 3 Gm. per 100 lb. of body weight) depending upon the size of the animal. Earlier symptomatic relief was noted from the larger dosage. A decided improvement was observed within forty-eight hours after the larger dose was employed. Twenty cows were treated in this manner with no failures.

It should be emphasized that all of the cows in this series and in that described above exhibited the acute inflammatory stage of the disease when treatment was started.

Four additional cows maintained on other farms were treated for foot rot. These animals exhibited evidence of suppuration and involvement of deeper structures of the foot. They made a satisfactory recovery following the intravenous administration of a 3-Gm. dose of sodium sulfamerazine per 100 lb. of body weight. The course of the infection was prolonged although they ceased to be lame within four or five days. No surgery or local treatment was employed in these cases. It is possible that additional oral sulfamerazine therapy in such cases would insure a more rapid and satisfactory recovery.

A 2,400-lb. Holstein-Friesian bull developed an incapacitating lameness in both hind feet so that he refused or was unable to move even to obtain food and water. The onset was rather sudden and severe. Sodium sulfamerazine was administered intravenously in a single dose of 65 Gm., and in thirty-six hours slight improvement was noted. The animal would walk to get to food and water and his appetite returned At the end of seventy-two to normal. hours the animal still had a partially altered gait, but at the end of one week recovery seemed to be complete and no apparent lameness was evident.

SUMMARY

Thirty-four cows and 1 bull with foot rot (infectious pododermatitis) were treated by the intravenous administration of sodium sulfamerazine. In 33 animals, recovery was complete and satisfactory.

Optimal dosage appears to be 3 Gm. of the compound per 100 lb. of body weight.

When suppuration and necrosis of the deeper structures of the foot exist, a second dose may be required on the third or fourth day and/or oral treatment with sulfamerazine for several days following the intravenous injection.

No toxic symptoms were observed at any time during or following the treatment of these cases with sodium sulfamerazine.

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Heartworm Treatment

A compound that contains 20 per cent of arsenic and that is stable either as a powder or in 2 per cent solution is experimentally promising as a filaricide in man and dogs. It is a substitute phenyl arsenoxide, chemically "p-[bis-(carboxymethylmercapto)-arsino]-benzamide," and was prepared by Otto and Maren at Johns Hopkins University (Science, 106, Aug. 1, 1947: 105-107), who tested it in vitro and in vivo against adult filariae of cotton rats and dogs. In both species, it killed all of the adult worms, though it did not bring about a reduction in microfilariae. Toxicwise, it appeared to have a satisfactory margin of safety at therapeutic levels.

According to the authors, this is the first time a chemical compound has been shown to kill all the adults of Dirofilaria immitis in doses which seem feasible for man.

One of the promising outlooks of the livestock industry is the growing interest in purebred dairy cattle in the Northwest. Holstein-Friesians, Swiss, Guernseys, and Jerseys predominated (numerically, in the order named), at the Pacific International Livestock Exposition of 1946 at Portland, Ore.

Report on Newcastle Disease [Avian Pneumoencephalitis]

Listed below are the states in which Newcastle disease [avian pneumoencephalitis] has been diagnosed by laboratory means since the identification of the disease in 1944. This information supplements the report appearing in the April.

1947, JOURNAL (pp. 244-245).

When a state reports virus isolation for the first time but has previously diagnosed the disease through other laboratory means, it is dropped from the latter classification and placed under the heading of virus isolation. Likewise, when a state reports that diagnosis has been accomplished by both hemagglutination and serum neutralization, it is listed only under the heading of serum neutralization.

Serum Neutraliza-Virus Isolation tion Test Arkansas Florida California Georgia Illinois Colorado Kansas Connecticut Maine Delaware Nebraska District of Columbia Indiana Nevada New Hampshire Iowa New Mexico Kentucky Maryland North Carolina North Dakota Massachusetts Michigan Oklahoma Minnesota Oregon Missouri Pennsylvania Montana South Carolina New Jersey New York South Dakota Tennessee Ohio Texas Rhode Island Utah Virginia Washington West Virginia Wisconsin

The states not reporting in the above groups are Alabama, Arizona, Idaho, Louisiana, Mississippi, Vermont, and Wyoming. From a U. S. BAI Release, July 1, 1947.

Increase in Streptomycin Production.-During July, the production of streptomycin increased 104 per cent over the previous month's output, the Department of Commerce reported on August 26.

The July total of 1,000,753 Gm. is virtually equivalent to all supplies made available during the entire year of 1946. The authorized export quota for July of 125,000 Gm. jumped to 300,000 Gm. for August.

Artificially dried hay is deficient in vitamin D.

Chronic Leptospirosis

MATTHEW A. TROY, D.V.M.

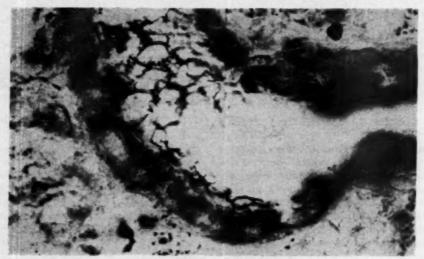
North Pelham, New York

RECENT literature contains many articles dealing with canine leptospirosis. These reports usually mention animals which have recovered from the disease as well as those dogs which die of the acute form. The following case history deals with a case of canine leptospirosis which was chronic.

A male Cocker Spaniel about 3 years old was presented for examination on July 1, 1946. The owner stated that the dog was he had previously gone without food for long periods he was not presented for treatment earlier. The necrosis of the tongue was noticed only three days before the dog was brought in for examination.

Euthanasia was performed with pentobarbital sodium.

The most prominent postmortem lesions were found in the enlarged kidneys (5 by 8 cm.). The capsule came away easily. The cortex showed diffuse necrosis. There were



-No. 101357, Army Institute of Pathology

Fig. 1-Tangled leptospira organisms in kidney tubule. x1000.

lethargic, stiff in the hind legs, and could not jump as well as usual. The dog had had similar attacks previously but they were milder and were not treated. Examination revealed a tenderness over the kidneys and a stiffness in the rear legs.

Treatment was symptomatic. In about ten days the dog appeared to have recovered.

Four months later he was returned to the hospital with a request for euthanasia. He was very emaciated and cachectic. His breath was uremic. The tip of his tongue was necrotic. The heart sounds were abnormal. A sticky purulent secretion had collected around the prepuce, which suggested a kidney disease to his owner. The dog had not eaten for two weeks, but since petechiae on the urinary bladder. The heart was enlarged, globular, and flabby.

Histologic examination of the tissues was done by the Army Institute of Pathology. The kidneys showed "a severe interstitial inflammation with plasma cells, polymorphonuclear leucocytes, and lymphocytes. Some tubules are dilated and albuminous castes are seen in others. Silver stained sections reveal typical Leptospira in tangled masses in the lumen and epithelium of many tubules (fig. 1). The organisms are unusually numerous in this case."

The tongue epithelium was eroded. The adjacent muscle contained many leucocytes, and considerable necrosis was present.

The liver and spleen were congested. Several recent hemorrhages were present in the myocardium.

The diagnosis made was canine leptospirosis and interstitial nephritis due to leptospirosis.

Comment.-In presenting this case history, it appears to me that many of these cases of stiffness in the hindquarters which are passed over lightly may be attacks of subacute leptospirosis. Stuart1 suggests that a large percentage of the chronic kidney disorders in older dogs may originate with Leptospira canicola.

¹Stuart, R. D.: Canine Leptospirosis in Glasgow. Vet. Rec., 58, (1946): 131-132. Abstr. in Vet. Med., 42, (July, 1947): 274.

Salmonella Pullorum Recovered from a Wild Pheasant in Minnesota

A wild pheasant (Phasianus colchicus torquatus) was found dead on Apr. 7, 1947, in a meadow within the city limits of St. Paul, Minn.*

At autopsy this adult male, weighing 1,112 Gm., was found to be in fair physical condition. No ectoparasites were found. Exposure of the breast muscles revealed an organized necrotic muscle mass (3.5 x 4.5 x 2.0 cm.) located at the left anterior border of the pectoralis muscle. There was extensive muscular hemorrhage over the right lateral wall of the thorax. Four ribs were fractured. The right pleural cavity contained a large blood clot, and the right lung was markedly hemorrhagic.

The immediate cause of the death was trauma.

REVIEW OF AVAILABLE LITERATURE

Natural outbreaks among game-farm raised pheasant chicks have been recorded by Hendrickson and Hilbert,1 and Miessner.2 Shillinger and Morleys reported that pheasants appear to be the game-farm bird most susceptible to pullorum disease, though not a serious problem on game farms in this country. Bennett' reported the results of experimental, subcutaneous injection of 2 pheasants, and the instillation of a culture of Salmonella pullorum into the crops of 2 other pheasants. All 4 birds, six weeks following inoculation, developed a maximum titer of 1:50 dilution when tested with pullorum antigen. None of the birds showed visible effects of the inoculation. One of the

pheasant hens, which later showed ovary lesions, produced no eggs in the two-month period following injection, as compared with 37 eggs produced in the same period by a control hen pheasant. No note was made of the egg production of the 1 remaining experimental and control hen. There were no visible lesions found at autopsy two months following the inoculation in 3 of the experimental birds, and no organisms were recovered. The remaining hen subcutaneously inoculated, however. showed typical pullorum lesions resembling those seen in the carrier adult domestic hen. The blood samples of 2 of Bennett's experimental birds (infected 1 subcutaneously, and the other by crop instillation) were found to be positive for pullorum disease when tested with rapid whole blood plate antigen, two months after experimental infection.

CULTURAL FINDINGS

Cultures were taken from the liver and the necrotic muscle mass and inoculated on dextrose agar. Salmonella pullorum was recovered from the liver culture.† The necrotic muscle mass yielded no significant organism.

DISCUSSION AND SUMMARY

It appears, from available literature, that this is the first record of Salmonella pullorum being recovered from a wild adult pheasant (Phasianus colchicus torquatus), and it definitely is the first record of the same in a Minnesota wild pheasant.-J. S. Cass, D.V.M., M.S., and J. E. Williams, D.V.M., University of Minnesota, St. Paul.

†This organism was typed by Dr. J. E. Williams, research fellow, Diagnosis Laboratory, Division of Veterinary Medicine, University of Minnesota, St. Paul. It was found to be a variant strain when further examined antigenically by Dr. P. R. Edwards, Kentucky Agricultural Experiment Station, Lexington. For discussion of variant strains, see Edwards and Bruner.⁵

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Materials used for softening hides in leather production can be produced from

Paper No. 2348 Scientific Journal Series, Minnesota Agricultural Experiment Station, St. Paul 1,

Pheasant was collected, examined at autopsy, and cultures prepared by J. S. Cass, research fellow and biologist, Pittman Robertson Project, Minnesota Department of Conservation.

Blackleg Immunity

J. F. RYFF, D.V.M. and A. M. LEE, D.V.M., M.S.

Laramie, Wyoming

In a previous report¹ of 15 isolations of Clostridium chauvei from cattle and sheep, three were made from supposedly vaccinated animals. While this may be out of proportion, as blackleg-like infections in vaccinated animals would be more apt to be sent in for laboratory examination, it confirms the frequent oral reports we have received of such losses in the past. In only one of the three instances was Cl. chauvei found unassociated with other members of the genus. A number of possible explanations offer themselves:

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 The bacterin used was incapable of conferring immunity.

Handling and storage decreased the antigenic value of a good bacterin.

The vaccination procedure itself was at fault.

 Or, in some instances other members of the genus interfered with the immunity to blackleg.

Measurement of the immunity developed in response to vaccinaton with blackleg immunizing products is not easy as a routine, comparative test. The objection to employing a multiple of a minimum lethal dose of culture as a challenge to vaccinated animals, of necessity in a species other than those ordinarily vaccinated, is readily apparent when different strains of Cl. chauvei are employed by different workers on relatively small groups of animals; yet the nature of blackleg infection has not favored the use of other standardized procedures.

Goss and Scott,² and Scott^{3, 4} suggested the injection of filtrate, antiserum, and culture in guinea pigs with the principle that a good filtrate would bind more antiserum. Thus, less would be available to counteract the organism, and death of the guinea pig would occur. Scott^{3, 4, 5} also evaluated filtrates by the activation of nonlethal doses of culture Live,⁶ in an attempt to determine the potency of blackleg aggressin,

found that aggressin or culture filtrate had an inhibitory effect on in vitro phagocytosis. They decreased the rate of phagocytosis in proportion to the amount of products capable of removing antibodies from serum. This method was not concise enough and too cumbersome for practical Various types of antigens estimation. added to immune serum were also found to decrease the agglutinative power of the serum. Mason and Scheuber's ten-year experience indicated that a vaccine immunizing 6 sheep so that all would withstand one to two lethal doses of Cl. chauvei intramuscularly would be satisfactory in the field. When 2 or 3 sheep died from one lethal dose, failure to protect in the field was to be expected. Mason⁸ found that if 6 sheep receiving 2 to 20 cc. of vaccine were able to withstand one to five m.l.d.'s in fourteen to twenty-one days, the product was good for field use. If 4 to 6 sheep died after receiving one to two m.l.d.'s, the vaccine was not effective. Failure to allow direct comparison was admitted. No correlation was found between the amount of circulating antitoxin and the amount of culture resisted. Formalinized filtrates contained an important antigen more stable than toxin that was capable of producing immunity. Mason concluded that measurement of immunity was dependent upon a method for titrating this heat-stable antigen and the antibody produced by it. Roberts^o reviewed the use of live cultures by McEwen and by Viljoen; of washed organisms activated by a constant amount of calcium chloride by Henderson and by Roberts; and Goss and Scott's activation of a sublethal dose of culture by aggressin. Roberts proposed the use of blackleg spores and an activator as a standard test of immunity. By governing the amount of activator, standardization of the test dose was accomplished irrespective of the amount of spores. However, Mason and Scheuber7 found difficulty in readily securing spores and found that the virulence of spores decreased quickly. They also observed that the spore test (with activator) was not as severe a test as employing culture.

Assistant professor (Ryff) and professor and head (Lee) of the Veterinary Science Department, University of Wyoming, Laramie.

Presented by J. F. Ryff at the Intermountain Veterinary Medical Association meeting at Salt Lake City, Utah, Jan. 13, 1947. Published by permission of the director, Wyoming Agricultural Experiment Station.

Undoubtedly, a potency test of blackleg immunizing products is highly desirable. Its routine application would eliminate any question of the antigenic ineffectiveness of certain lots of bacterin. However, in view of the tremendous number of doses from different producers that has been employed with apparent success in preventing blackleg, few of our biological products would possess the same enviable record. While no attempt has been made in this report to evaluate or produce such a potency test, challenging of guinea pigs after vaccination with one fifth the dose recommended for cattle usually revealed a high degree of immunity with a number of lots of bacterin.

Viljoen and Scheuber10 described the relative stability of blackleg bacterin. Scheuber¹¹ noted that some loss of efficiency occurred in vaccines after six to twelve months of storage. Four sheep vaccinated with 3 cc. of alum-absorbed bacterin two weeks before the expiration date, after storage in the dark at room temperature for nearly a year, were protected against about 20 m.l.d.'s. Another similar product stored in the same fashion for six months after preparation protected against about 20 m.l.d.'s with a 2-cc. dose; after twelve months of this handling, 5 cc. produced the same effect as 2 cc. did earlier, but the 2-cc. dose protected against only ten m.l.d.'s. Two other batches, when one year old, protected against ten m.l.d.'s in 2-cc. amounts. Improper handling or excessive storage are usually obvious factors that can be readily corrected.

In order to be effective, blackleg bacterin

must be injected into the calf in sufficient amount. This obvious feature may be frequently overlooked. Most owners, vaccinating their own stock, will hesitate to say with any assurance that it would have been impossible not to have missed any of a large group immunized. Not infrequently a ten-dose vial of vaccine is thought ample for 11 or more head, with the result that the last animal is neglected or else 2 calves receive only half a dose.

Under different conditions blackleg vaccine may be employed in different ways. Vaccination may be done at branding time in late spring, or it may be delayed until the early fall branding or weaning time. In some areas, the danger of infection may be so great that vaccination may be done soon after the calf is dropped; this may be followed by a second vaccination at weaning. Some owners employ a combined bacterin of Cl. chauvei and Clostridium septicum. In recent years, there is also a tendency to incorporate a second immunizing agent for various pulmonary infections at the time of blackleg vaccination.

With the thought that these various modes of securing immunity might influence the desired results, a series of comparable guinea-pig immunizations were set up. Whatever results might be obtained by using an additional antigen along with blackleg bacterin, reports in the literature would indicate enhancement of immunity should be attained. In the field of veterinary medicine, there are few definite recommendations for the simultaneous employment of multiple antigens. Breed's¹² suggestion of a combined Cl. chauvei—Cl. septicum im-

TABLE I

of test dose†
3-5/10 (509
3-7/10 (709
3-1/10 (107
3-7/10 (70%
3-4/6 (66%
2-1/0 (00%
3-5/10 (50%
3-1/7 (14%

^{*}Control group used to establish this unit. M.l.d. = smallest amount culture killing all 10 controls. 80% l.d. = 8 of 10 controls killed by amount used. †First figure refers to multiple of test dose used as challenge; numerator = no. of survivors; denominator = no. tested; figure in parenthesis indicates per cent survived.

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munizing agent has apparently worked adequately in the field. Neitz and Alexander13 concluded that, in northern Transvaal, calves should be simultaneously immunized against blackleg and gallsickness (Anaplasma centrale) at 3 months of age. Without attempting a complete review of the subject in human medicine, the growing tendency to make use of the beneficial effects of mixed antigens is readily evident. Ramon¹⁴ reviewed the early history and present usages of mixed vaccination. Jones and Moss¹⁵ reported that combinations of smallpox and diphtheria, diphtheria and typhoid-paratyphoid, diphtheria, typhoid, and smallpox, and tetanus and diphtheria immunizations among others gave equivalent or better immunity than when employed singly. Jordan and Halperin¹⁶ concluded that there was a suggestion, but no certain evidence, that combined vaccination was supplementary in stimulating antitoxin production, but that it was well established that certain combinations were useful and harmless. Other workers (Mac-Lean and Holt;17 Schützer;18 Penfold, Tolhurst, and Wilson;19 Kolmer;20 Lopin;21 Greenberg, Morrell, and Gibbard;22 Stewart;23 and Kulka and Hirsch24) have reported favorably on combining antigens.

Boyd and Malkiel,²⁵ using the principle that addition of a good antigen may stimulate antibody production by a weak one, were able to produce antibodies against horse hemoglobin by employing killed typhoid bacilli or monilia.

PROCEDURE When ample protection of guinea pigs was demonstrated by using 1 cc. of bacterin, this amount was used throughout. In determining the size of the challenge dose, varying quantities of 48-hour Cl. chauvei culture were injected intramuscularly, 48-hour cultures being found the most lethal of one to five days' incubation. This information was then applied as the minimum lethal dose on a control group of guinea pigs for the lot under experiment. With some of the larger groups, it was deemed more appropriate to use less than the m.l.d. (expressed as % l.d.) on this control group of 10, so that variation in susceptibility would not unnecessarily increase the amount used. Enough variation in susceptibility was found with different strains of guinea pigs that a control group was included not only for each experiment but for each strain represented. Aside from the preliminary titrations, these controls received the same lot of culture and at the same time as the experimental animals. Seven days' survival after challenge was arbitrarily taken as indicative of immunity. The results cited are a portion of the guinea pigs actually employed. While a single experiment

TABLE 2

Gro	challe	al between nge & last cination		N	o. of units of test d	ose†
1 2	1 cc. blackleg bacterin. 1 cc. blackleg bacterin. 1 cc. hemorrhagic septi-	2 wk.	50% l.d.	5-2/3 (66%)	3-2/3 (66%)	1-3/3 (100%)
	cemia bacterin.	2 wk.	50% l.d.	5-3/3 (100%)	3-1/3 (33%)	1-3/3 (100%)
3	1 cc. blackleg bacterin. 1 cc. blackleg bacterin.	4 wk.	60% l.d.	25-0/1	10-0/1	5-2/4 (50%)
	1 cc. hemorrhagic septi-					
	cemia bacterin.	4 wk.	60% l.d.	25-0/1	10-0/1	5-3/4 (75%)
5	1 cc. blackleg bacterin.					
	Vaccination repeated at 4 wk.	4 wk.	m.l.d.'s	15-0/1	6-2/5 (40%)	3-2/5 (40%)
6	1 cc. blackleg bacterin. 1 cc. hemorrhagic septi- cemia bacterin. Double vaccination repeated at					
	4 wk.	4 wk.	m.l.d.'s	15-3/5 (60%)	6-1/5 (20%)	3-4/6 (66%)
7	1 cc. chauvei-septicum					
	bacterin.	4 wk.	60% l.d.	25-0/5	10-0/5	5-0/5
8	1 cc. chauvei-septicum bacterin. 1 cc. hemor- rhagic septicemia bac-					
	terin.	4 wk.	60% l.d.	25-0/5	10-1/5 (20%)	5-0/5
9	1 cc. blackleg bacterin		00 /0 1101	20.070		
10	at 1-7 day age. 1 cc. chauvei-septicum	8 wk.	70% l.d.	25-0/3	10-0/3	5-1/5 (20%)
10	bacterin at 1-7 day age.	8 wk.	70% l.d.	25-0/3	10-0/5	5-1/5 (20%)

^{*}Control group used to establish this unit. M.l.d. = smallest amount culture killing all 10 controls, 50% l.d. = 5 of 10 controls killed by amount used. †First figure refers to multiple of test dose used as challenge; numerator = no. of survivors; denominator = no. tested; figure in parenthesis indicates per cent survived.

involving larger groups would have been more appropriate, large numbers of guinea pigs were not always accessible, and the equipment for housing them was not available. The number of pigs procurable at 1 to 7 days of age was especially limited. Unless the age is specified (as 1 or 2 days of age), young pigs, one to a few weeks after weaning, were vaccinated. Some of the adjuvant bacterins, it should be noted, produced anaphylaxis. This was counteracted in several instances by the use of adrenalin, but even then a few guinea pigs succumbed; others affected recovered without treatment.

to that obtained with blackleg bacterin, and that vaccination early in life fails to confer any degree of resistance.

The results in table 2 give further illustration of this. Comparison of groups 1, 2, 3, and 4 again indicate that no decrease in resistance at least is brought about by the addition of hemorrhagic septicemia bacterin to the blackleg immunization process. Groups 5 and 6 indicate a slight superiority of the combined vaccination. When groups 7 and 8 are compared with 3 or 4, Cl. chauvei—septicum bacterin appears deficient.

TABLE 3

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-	Vaccination procedure	Interval between challenge & last vaccination	Test dose units and results
	cc. blackleg bacterin. cc. hemorrhagic septicemia bacterin.	after 12 wk.	30 m.l.d.'s Cl. chauvei survived. 15 m.l.d.'s Cl. chauvei survived. 30 m.l.d.'s Cl. chauvei plus sublethal dose of Cl. sporogenes—died. 15 m.l.d.'s Cl. chauvei plus sublethal dose of Cl. sporogenes—survived.
		after 14 wk.	30 m.l.d.'s Cl. chauvei, 2 pigs survived. 20 m.l.d.'s Cl. chauvei plus sublethal dose of Cl. sporogenes—died.
1	cc. blackleg bacterin.	after 4 wk.	3 m.l.d.'s Cl. chauvei. 2 pigs survived. 3 m.l.d.'s Cl. chauvei plus sublethal dose of Cl. sporogenes—2 pigs died.
	cc. blackleg bacterin. accination repeated at 2 wk.	after 2 wk.	 20 m.l.d.'s Cl. chauves survived. 20 m.l.d.'s Cl. chauves plus sublethal dose of Cl. sporogenes—died.

RESULTS

Table 1 gives the results secured in one experiment which allow direct comparison. Using one injection of blackleg bacterin as the standard for comparison, these results would suggest that two injections markedly increase the immunity, that blackleg and hemorrhagic septicemia vaccination combined at least produce no decrease in immunity, that Cl. chauvei—septicum bacterin results in immunity to blackleg comparable

Group 9 again fails to show up as well as group 3.

When considering the effect other organisms may have on blackleg immunity, the question of the etiology of the disease arises. Bosworth,²⁶ in reviewing the findings of other workers and from his own findings, concluded that blackleg is typically caused by Cl. chauvei and that other supposedly causal agents—as Cl. septicum, Clostridium novyi, and Clostridium per-

TABLE 4-Hamsters Surviving Exposure to Cl. Chauvei Culture

Preliminary Tests	Date	Challenge	Amount of culture and results.
	9/11/46	Cl. chauvei culture.	0.25 cc. Survived. 0.5 cc. Survived. 0.75 cc. Died.
	9/10/46	Cl. sporogenes culture.	.01 cc. Survived. 0.1 cc. Died. 0.5 cc. Died.
Controls	9/21/46		1-1-1-1
5 hamsters rece 5 hamsters rece	eived—	Cl. chauvei culture. Cl. sporogenes culture.	0.5 cc. 4 survived. 0.005 cc. All survived.
Test Group 33 hamsters rece	9/21/46 eived—	Cl. chauvei culture. Cl. sporogenes culture.	0.5 cc. combined. 29 died 9/23/46 0.005 cc. combined. 1 died 9/24/46

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fringens-are simply agonal tissue invaders. Scott27 recognized that several anaërobes may be encountered in blackleg lesions and that while ideally a polyvalent vaccine would be in order, practically Cl. chauvei vaccine is alone sufficient. Breed12 has indicated Cl. septicum may, in combination with Cl. chauvei, break down the resistance following blackleg vaccination. Viswanathan28 stated that, while Cl. chauvei until recently was considered the sole cause, Cl. septicum, Cl. novyi, and Cl. perfringens should be considered responsible for a fair percentage of the cases in India. Smith29 has indicated that Clostridium sporogenes is considered by British workers to hasten and aggravate wound infections caused by Cl. perfringens, Cl. septicum, and Cl. novyi. Very rarely were the Cl. sporogenes strains isolated pathogenic for guinea pigs, but several human cases were observed where the muscles were invaded in pure culturebut not beyond damaged groups and with only mild toxemia. They indicated more knowledge was needed of the bacterial synergism of the less toxigenic, but more invasive, bacteria, as Cl. sporogenes and Clostridium bifermentans.

We have generally accepted the picture that classical blackleg is caused by Cl. chauvei alone, and that in some cases Cl. septicum may complicate the picture, although the term malignant edema may be reserved for this complication. The nature of our specimens1 would not allow differentiation from simple agonal invaders of the organisms isolated in conjunction with Cl. chauvei. It would be difficult, in fact, to prove or disprove, under field conditions, whether these organisms synergistically aided Cl. chauvei in the initial development of blackleg, aided the development of blackleg in its later stages so that resistance could be overcome, or were simply incidental agonal or postmortem invaders. Another approach would be to see whether such organisms could, in conjunction with Cl. chauvei, overcome a level of immunity that would resist the amount of Cl. chauvei culture when used alone. Because Cl. sporogenes is usually considered nonpathogenic, and is relatively ubiquitous, it was employed in preference to cultures such as Cl. septicum or Cl. perfringens which are of known pathogenicity. The several cultures of Cl. sporogenes employed, however, were found to kill guinea pigs in relatively

small doses. Table 3 gives the effect Cl. sporogenes had on breaking down the immunity to blackleg on several isolated groups of guinea pigs in which comparably immunized animals were able to survive definite amounts of Cl. chauvei culture alone. In table 4 the protocols of a more extensive test applied to hamsters, which a month previously had survived intramuscular injection of Cl. chauvei culture, are given. Here a sublethal dose of Cl. sporogenes in conjunction with Cl. chauvei was capable of killing 90 per cent as compared with an expected lethality of 20 per cent for Cl. chauvei used alone on these resistant hamsters.

SUMMARY

While a simple potency test of blackleg bacterin would be desirable, good products are undoubtedly available. Usage procedures may determine the immunity secured; vaccination of very young animals is not desirable unless it can be followed by a second vaccination. Where desired, combining other vaccination procedure with blackleg vaccination is based on good precedent and does not decrease the immunity to backleg. Clostridium chauvei - septicum bacterin probably produces immunity comparable to regular blackleg bacterin. der experimental conditions, Clostridium sporogenes has a synergistic effect upon Clostridium chauvei infection.

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Sodium Fluoride for Nodular and Stomach Worms

Roberts of Australia observed that sodium fluoride may prove useful against nodular worms and stomach worms of swine, besides its established efficacy against ascarids. Limited tests reported in The Australian Veterinary Journal (23, Apr., 1947: 82-90) showed 20 to 99 per cent effectiveness of the drug against light infestations of nodular worms in dose rates of 0.1 to 0.25 Gm. per pound of body weight; it was 54 to 100 per cent effective in the same dosage against light infestations of stomach worms.

Irradiated Rabies Vaccine

Irradiated rabies vaccines (Levinson-Oppenheimer ultraviolet technique) prepared by Habel of the U.S. Public Health Service were consistently more potent than phenolized vaccines made from the same original brain emulsion. Whole brain emulsions as heavy as 20 per cent were inactivated by the ultraviolet method, and potency was satisfactorily preserved in storage at 4 C. An important factor in this irradiation procedure, which is adaptable to commercial production, is the use of a thin-film chamber for exposing the materials .- Pub. Health Rep., May 30, 1947.

The Doping of Race Horses-Benzedrine, et al.

Although the doping of race horses was somewhat eclipsed during the period between the two wars it has burst out with flaming activity in recent years. The great volume of money in circulation increased not only betting but also frauds. Moreover, new doping products have been discovered which, up to this time, are not easily de-Two of them are benzedrine (phenyl-amino-propane) and pervitin (phenyl-methyl-amino-propane) both belonging to the group of synthetic symphathicomimetics-direct stimulants of the sympathetic nervous system. These products, for the dopester, have the advantage of being easily administered per os and of not being detectable in the saliva like the alkaloids. Although Prof. De Laet in Belgium has succeeded in crystallizing pervitin in saliva, the small amount of saliva that can be collected after a race renders the analysis extremely delicate. In the case of need, it is necessary to take blood and urine samples for the analysis-a procedure that is impracticable on a race track.

The repeated use of these drugs causes a chronic intoxication that cuts short both the racing and breeding career of horses.

The size and activity of the membrana nictitans in the different mammalian genera are in reverse ratio to the number of digits. Its development is, therefore, greatest in the solipeds and ruminants. The membrana nictitans must not be confused with the socalled third eyelid of birds.

Treatment of Bovine Mastitis With Tyrothricin, Bacitracin, Streptomycin, and Penicillin

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A NUMBER of investigators have reported favorable results with the use of penicillin and tyrothricin in the treatment of bovine mastitis, the leading veterinary problem of the dairy industry. Recently, other antibiotic drugs developed may supplement penicillin, tyrothricin, and other drugs in the treatment of this disease. Among these are bacitracin, which promises to be useful in the treatment of infections caused by gram-positive bacteria, and streptomycin, which has shown effectiveness in infections caused by gram-negative bacteria. Up to the present, the last two have not been tested to any great extent for their value in mastitis. There also appear to be few, if any, reports of the treatment of cows with a succession of different antibiotic substances in an attempt to eliminate the infection in refractory cases.

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The purposes of this study were (a) to test and compare the efficacy of the four named drugs, alone or in succession, in treating chronic cases in quarters showing varying degrees of induration; (b) to determine the effects of these drugs with regard to irritation of the udder and effect on milk secretion; and (c) to determine the practical possibilities of eliminating mastitis from a dairy herd by combining the various antibiotic agents and the use of them under accepted methods of dairy sanitation.

The work was carried out with the support of the Research Foundation of Oklahoma Agricultural and Mechanical College in coöperation with the dairy department of the Oklahoma Agricultural Experiment Station which furnished the herd and assistants to care for the cows and determine the effects of the treatment on milk production. The tyrothricin used in the experiments was furnished by Sharp and Dohme Inc., of Philadelphia; the streptomycin by Abbott Laboratories, North Chicago, Ill.; the bacitracin by Ben Venue Laboratories.

Inc., Bedford, Ohio; and the penicillin by Parke, Davis and Company of Detroit. Grateful acknowledgment is made of these contributions which were essential to the experiments.

MATERIALS AND METHODS

The cows used in the experiments were the regular milking herd of the Agricultural Experiment Station Dairy Department. This herd is made up of purebred Jersey, Holstein-Friesian, Ayrshire, and Guernsey cows in about equal numbers. The cows were kept in the barn for only about two hours each morning and evening for feeding and were machinemilked while standing in their stanchions. Good milking practices were in use when the project was started. However, as infected cases were determined, arrangements were made for them to be milked with different machines from the noninfected cows, but they were milked along with the noninfected cows by the same milker. Later, the infected cows were milked with different machines and only after all the noninfected cows had been milked. Due to feeding experiments in progress and other factors. it was not practical to isolate the infected COWR

Determination of Infection.—Before the 3:00 p.m. milking, the udders were washed with a chlorine solution, and the teats were wiped with 70 per cent alcohol. Two streams of milk were drawn into a strip cup; then about 9.5 cc. were drawn into a test tube containing 0.5 cc. of 0.5 per cent solution of bromcresol purple for a Hotis test. These samples were incubated twenty-four hours, then the Hotis test was read. Smears were made from the incubated samples and stained with Newman's stain. These smears were examined microscopically for the presence of leucocytes and bacteria, due allowance always being made for cows early and late in lactation.

A quarter was considered to have Streptococcus agalactiae mastitis if yellow flakes appeared on the sides of the tube or as a flaky yellow precipitate, and if streptococci were found on microscopic examination.

A Streptococcus mastitis due to organisms other than Str. agalactiae was considered present when the Hotis test showed acid formation but no flakes and streptococci were found upon microscopic examination of the sample.

A Staphylococcus mastitis was considered

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present when staphylococci plus an excess of leucocytes were found on microscopic examination. Many samples showed staphylococci or micrococci without an excess of leucocytes or palpable udder changes. Twelve of these samples, streaked on blood agar, showed no hemolysis. The species of microörganisms involved were not determined.

The smears made from samples taken from one quarter for three consecutive weeks showed an excess of leucocytes and a rod-shaped microorganism which proved to be *Escherichia coli* in pur culture.

Following milking, each udder was carefully palpated and the teats examined. A record of each quarter was made following the procedure as outlined by Udall.¹

Hereafter, when the terms "slight," "distinct," and "marked induration" are used, they refer to Udall's method of classification. When the term "indurated quarters" is used, reference is being made to several quarters and may include quarters showing any of the above mentioned degrees of induration.

EXPERIMENTS WITH TYROTHRICIN

Cows were selected for this experiment by dividing the barn into two sections. cidin in a 50 per cent oil emulsion), and each infected quarter of group 2 was infused in a like manner with 40 cc. of tyrothricin. In cases of group 2, where four quarters of 1 cow were infected, only two quarters were treated at a time. The other two quarters were treated after a 24-hour interval in order to avoid an excess of swelling of the udder or other reaction to the treatment.

At seven- and fourteen-day intervals following treatment, samples were checked, and quarters which gave two negative samples were considered to be freed of infection. A quarter which remained free of infection for two weeks rarely became positive subsequently. Those quarters which remained infected were given a second treatment of the same dosage except in a few cows removed from the herd in the routine of some cows turning dry each month.

Samples were similarly checked following the second treatment, and quarters negative on both tests were also considered to have been freed of infection.

TABLE I-Quarters Infected with Streptococcus Agalactiae Treated with Tyrothricin

	Total no. quar. treated	No. indurated quar. treated		% indurated quar. freed of infection	No. non- indurate quar. treated	No. non- indurated d, quar, freed of infection	% non- indurated quar, freed of infection	No. quar. later treated with penicillin	No. penicil- lin treated quar. freed of in- fection
1st 20-cc. treatment	26	13	. 2	15.4	13	5	38,5	11	10
2nd 20-cc. treatment	15	6	1	16.7	9	3	33	10	9
1st 40-cc. treatment	26	9	1	11.1	17	8	47	7	. 5
2nd 40-cc. treatment	12	3	1	33.3	9	3	33	5	4
Total for a		31	5	16.1	48	19	39.6	33	28

Quar.=quarters.

Those stanchioned in section 1 were designated group 1, and those stanchioned in section 2, group 2. All infected cows in each group were treated regardless of their anticipated chances of recovery.

After milking, each infected quarter of group 1 was infused with 20 cc. of tyrothricin (2 mg./cc. of gramicidin and tyro-

The results of treating quarters infected with Str. agalactiae are given in table 1. The percentage of nonindurated quarters freed of infection was more than twice that of the indurated quarters freed. The complete tabulation indicated that no quarters having marked induration were freed of infection, and only two quarters showing distinct induration were freed. The rest of the quarters freed of infection showed slight or no induration.

Of the quarters showing streptococci

⁴Udali, D. H.: The Practice of Veterinary Medicine, published by the author, printed by George Banta Publishing Co., Menasha, Wis., (1943): 629-631

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other than Str. agalactiae, none of which were indurated, two were treated with 20 cc. of tyrothricin and five with 40 cc. of tyrothricin. These were freed of infection with a single treatment. Of the quarters showing staphylococci or micrococci with no excess number of leucocytes, nine were treated with 20 cc. of tyrothricin and four were treated with 40 cc. of tyrothricin. A single treatment in each case eliminated the bacteria. Although three of these 13 quarters showed some induration on palpation, it is doubtful if the presence of these bacteria was the actual cause of any mastitis.

A record of the increased viscosity of the milk following treatment, as revealed by variations in straining time, was kept by the Dairy Department. This record covered the treatment of 96 quarters of 43 cows. No change was observed following treatment in 13 cows. The other 30 showed increased viscosity as indicated by slower straining of the milk for a varying number of days following treatment. Nineteen cows gave slower straining for one to four days, 8 gave slower straining for five to six days, and 1 each for seven, eight, and nine days following treatment. In the 30 cows giving milk which showed increased viscosity, the increase was immediate, appearing in the first milking following treatment. Occasionally, the milk of a cow could not be strained due to the great amount of physical change.

The length of time during which the milk remained viscous following treatment was not closely correlated with the number of quarters treated per cow or the number of cubic centimeters infused into each quarter. However, in general the increase of viscosity of the milk was greater from the cows receiving the greater quantity of medication. Cows giving milk which showed increased viscosity for seven, eight, and nine days following treatment all had received 40 cc. of tyrothricin per quarter.

The relationship between the increased viscosity of the milk and the severity of infection and palpable udder abnormality in the individual cows was definitely correlated.

Concurrent with the observations on viscosity of milk, a record was kept of all swellings. Fourteen cows had one or more quarters swollen following the treatment. The swellings, which were never severe, usually reached the maximum within twenty-four hours and had nearly subsided thirty-six hours following the treatment. The amount of swelling was much more closely related to the severity of infection than to the amount of drug given.

Examination of the milk records of the treated cows showed a few cows with a considerable decrease in milk production the first four days following treatment. This may give the impression that the treatment caused a considerable loss in milk production. This did not prove to be true. The average daily milk production of 45 treated cows for seven days before treatment was 26.7 lb. per day; for the first seven days following treatment, 26.2 lb.; and for the eighth to fourteenth day following treatment, 26.4 lb.

In an attempt to determine the normal weekly drop in milk production of a group of cows in this herd, 45 cows which were not treated were selected and a tabulation made for three consecutive weeks, covering the same three calendar weeks as was used for the treated cows. The untreated cows gave an average daily milk production of 21.3 lb. the first week, 20.8 lb. the second week, and 20.4 lb. the third week.

The immediate irritating effect of tyrothricin was to decrease milk production markedly in a few cows for a few days. However, in considering the two-week period following treatment, on the average for all cows treated, the decrease immediately following the treatment was compensated for by a slightly increased production in the latter part of the period.

In the light of these data, there appears to have been no actual loss in milk production due to treatment. There was some economic loss due to the discarding of some milk because of the change in its physical properties.

EXPERIMENTS WITH BACITRACIN

Bacitracin, a new antibiotic produced from a member of the *Bacillus subtilis* group, has shown the ability to inhibit the growth of several gram-positive bacteria, including some streptococci. This, plus its apparent relatively low toxicity, warranted its trial on bovine mastitis.

In this part of the experiment, only cases of *Str. agalactiae* were treated. An attempt was made to select quarters which showed none to slight induration and would be easy to free of infection and also

to select other quarters which would be more difficult cases. It would have been preferable to have a higher percentage of less severe cases to treat with bacitracin. but when this drug was made available, the tyrothricin experiment had been completed. and the low dose penicillin treatments were in progress. These two drugs had eliminated a large number of the mildly infected nonindurated cases. Of the 28 quarters treated with bacitracin, 13 had been previously treated with tyrothricin or with two small (30,000 to 60,000 units) doses of penicillin without results. The bacitracin was dissolved at the rate of 100 units per cubic centimeter in distilled water and then filtered through a Seitz filter. In general, this drug is used and handled similarly to penicillin.

The manufacturer recommended that the number of units given in each quarter be about one tenth the number of units of penicillin used for a similar case. In general, this practice was followed in selecting the doses for the experiment.

The results of treatment are given in table 2. The quarters listed as freed of infection are those which remained negative four weeks or longer following treatment. Those listed under the caption "Appeared freed of infection" are those which gave negative samples one to twenty-one days following treatment and then became positive. Most of those which appeared freed of infection were negative for only one day following the last treatment. No disturbance of milk flow, toxic symptoms, or swelling of the udders was observed.

EXPERIMENTS WITH STREPTOMYCIN

A Holstein-Friesian cow with a moderately meaty udder, giving about 28 lb. of milk daily, was found on repeated tests to have an $E.\ coli$ mastitis in one quarter. This quarter was treated with 30,000 units of penicillin dissolved in 40 cc. of distilled water at 24-hour intervals until four treatments had been given. This treatment did not eliminate the $E.\ coli$ from the milk nor reduce the number of leucocytes. Four days following the use of penicillin, treatment was started with streptomycin. Two infusions, each of 500,000 $\mu g.$ (units) dissolved in 80 cc. of sterile distilled water, were made twelve hours apart.

The milk sample taken twenty-four hours following the second treatment was nega-

TABLE 2—Quarters Infected with Streptococcus Agalactiae Treated with Bacitracin

No.	No. quar	No, treated quar. showing some induration	Treatment given	No. quar. freed of infection*	% quar. freed of infection	freed of infec-	No. quar. later treated with penicillin	treated quar. freed of	treated quar. freed of
1	1	1	2,000 u. every 24 hr. for 4 treatments	0	0	0	0	**	• •
6	8	8	5,000 u. every 24 hr. for 2 treatments	. •	. 0		7	8	71
2	5	. 6	5,000 u. every 24 hr. for 3 treatments	1	20		4	1	25
3	5	4	10,000 u. every 24 hr. for 2 treatments	3	40			0	0
2	3	3	10,000 u. every 24 hr. for 3 treatments	•	•	1		1	33
1 .	1	1	10,000 u. every 12 hr. for 2 treatments	0	•	1	1	1	100
4	4 3	3	10,000 u. every 12 hr. for 3 treatments		0	1	3	2	66
1	1	1	20,000 u. every 24 hr. for 3 treatments	1	100	1	0		
20	28	28		4	14.3	16	21	10	48

^{*}Quarters which gave negative samples 28 days or longer following treatment.

[†]Quarters which gave negative samples for 1 to 21 days following treatment.

u. = units. quar. = quarters.

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tive for *E. coli*. At the time of writing, the quarter had remained free of infection for more than two months, and the leucocyte count of the milk had dropped to normal.

During the treatments with both streptomycin and penicillin, the cow continued to give about the same quantity of milk, and no toxic symptoms were observed.

EXPERIMENTS WITH PENICILLIN

Quarters which failed to respond to treatment with tyrothricin and bacitracin, together with the quarters of some cows that had never been treated, were treated with penicillin. Quarters which failed to respond to small doses of penicillin were given increasingly larger doses of the drug as indicated in table 3. Quarters which remained negative for three weeks following treatment were considered to be freed of infection. Table 3 includes only those quarters infected with Str. agalactiae. Three quarters infected with staphylococci with an excess of leucocytes were freed of infection with two doses of penicillin, of 30,000 units each, given twenty-four hours apart. No toxic symptoms or variations in milk production were observed to result from the penicillin treatments.

DISCUSSION AND CONCLUSIONS

There was no indication that penicillinfast strains of Str. agalactiae were developed. Quarters given several small doses of penicillin without being freed of infection were later freed of infection with larger doses. Milk taken from quarters twenty-four hours after treatment with 100,000 units of penicillin, when added to milk of a Str. agalactiae-infected quarter, which had received several treatments with penicillin, still inhibited the growth of the organism when incubated in a Hotis tube.

Most of the quarters which appeared freed of infection for one or two days after treatment with bacitracin were no doubt still discharging bacteria into the milk. The samples were negative to the tests used, probably because there was still sufficient bacitracin in the milk to inhibit the growth in vitro of Str. agalactiae.

In the light of the apparent low toxicity of bacitracin, more extensive experiments using much larger doses per treatment are needed before drawing final conclusions as to its efficacy in the treatment of Str. agalactiae mastitis.

Throughout the experiment, there was observed a close relationship between de-

TABLE 3-Quarters Infected with Streptococcus Agalactiae Treated with Penicillin

No.	No. quar. treated	ously treated with tyro-	No. quar. previ- l ously treated with bacitra- cin	No. quar. previ- ously treated with smaller doses of peni- cillin	Treatment	No. indu- rated quar. treated		No. non- indu- rated quar. treated	No. non- indu- rated quar. freed of in- fection	No. quar. later treated with larger doses of peni- cillin	with larger dose
4	5	2	0	0	Single treatment with 30,000 u. in 40 cc. of water	2	0	3	2	3	3
14	17	8	0	0	30,000 u. in 40 cc. of water at 24-hr. intervals, 2 treat- ments	g	3	8	5	9	7
13	22	12	8	12	50,000 u. in 50 cc. of water at 24-hr. intervals, 2 treat-	15	6	7	4	10	5
5	11	8	8	6	ments 100,000 u. in 100 cc. of water at 24-hr. intervals, 2 treat- ments	10	4	.1 .	1	. 6	1
7 .	12	4	9	11	100,000 u. in 100 cc. of water at 24-hr. intervals, 3 treat- ments	11		1	1	2	•
2	3	1	. 3	3	100,000 u. in 100 cc. of water at 24-hr. intervals, 4 treat- ments		•				

u. = units. quar. = quarters.

gree of induration and recovery. In table 3 it will be noted that as the experiment progressed the percentage of nonindurated quarters became progressively smaller for they had been freed of infection with previously smaller doses of penicillin. All the quarters that failed to respond when treated with 300,000 and 400,000 units of penicillin showed extensive induration.

The strip cup was found to be of little value in detecting the infected cows. Of the first 52 quarters diagnosed as having mastitis, only four showed any abnormal milk with the strip cup. The strip cup may have more value in detecting acute cases.

While this herd was not freed of mastitis, the number of cows having mastitis was reduced from 61 to 7. By disposing of incurable cows—which is not always practical in a purebred and experimental herd—precautions in sanitary milking practices, and continued testing and treatment, it is believed that mastitis can be eliminated from herds comparable to the one used.

Work done by Spencer, McCarter, and Beach² indicates that when all the cows infected with Str. agalactiae have been eliminated from a herd the premises do not long remain contaminated. During the warm summer months, contamination probably does not last for more than nine days following the elimination of all infected cows.

SUMMARY

Tyrothricin was found to be effective in the treatment of *Streptococcus agalactiae* mastitis but has limitations as to frequency of treatment due to its undesirable effect upon the physical quality of the milk and udder swelling following its use.

Bacitracin, which inhibits growth of gram-positive bacteria, was apparently nontoxic in the dosages used and shows promise as a treatment for Str. agalactiae mastitis.

Streptomycin, which appeared to be non-toxic in the dosage used, eliminated mastitis caused by *Escherichia coli* in one quarter. It has possibilities of usefulness in the treatment of other cases of mastitis caused by gram-negative bacteria.

Penicillin, in the dosages used, proved to

be the most satisfactory treatment for cases of mastitis caused by Str. agalactiae.

All of the antibiotic drugs showed a much greater efficacy in the treatment of nonindurated quarters.

New Records of Helminths in Chickens

Two species of helminths, Echinoparyphium recurvatum (von Linstow) and
Fimbriaria fasciolaris, apparently not heretofore reported in chickens in the United
States, were recovered in Tennessee. Two
specimens of E. recurvatum, a trematode
of the small intestine, were obtained from
a Barred Plymouth Rock hen in Washington County, and eight specimens of the
tapeworm, F. fasciolaris, were recovered
from a Rhode Island Red in Davidson
County.—J. Parasitol., 33, (Apr., 1947):
170.

Osteomalacia and Paratuberculosis

Morin (Thèse, Paris, 1947), in a long study of osteomalacia and paratuberculosis (Johne's disease) in the department of Deux-Sèvres, established different etiopathologic relationship between the two diseases in the same animals and within the herds, which he was able to attribute to definite geological and agricultural conditions (soil, subsoil, rocks, terrain of the plateau paths, shrubby swamps, rain, drought). Osteomalacia was rare where rickets was frequent but always related to the phosphorus-calcium ratio. While osteomalacia was favorable for paratuberculosis. certain terrains were positive barriers to Johne's bacillus.

Penicillin-Sulfonamide Therapy for Mastitis.—In treating bovine mastitis, Johnson and Roberts of Cornell University (Cornell Vet., Apr., 1947) obtained better results with a penicillin-sulfonamide combination infusion than with either of these drugs alone.

Human milk provides the best balance of amino acids, R. J. Block, M. D., told the Nutrition Council of the American Feed Manufacturers Association. But, it is not available in quantities and at prices suitable for feeding pigs and calves.

^{*}Spencer, G. R., McCarter, Janet, and Beach, B. A.: Reservoirs of Infection of Streptococcus agalactics. Am. J. Vet. Res., 7, (Jan., 1946): 32-36.

Sodium Sulfamerazine in Drinking Water for Salmonella Pullorum Infection in Chickens

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It is well known that pullorum disease causes a greater economic loss to poultry producers than does any other infectious disease of fowl. The most practical solution of the problem is for poultrymen to obtain eggs or chicks from a pullorum disease-free source and to incubate the eggs and raise the chicks in such a manner that neither the eggs nor the birds are exposed to Salmonella pullorum. Unfortunately, even with the greatest of care, outbreaks occur so constantly that attempts to minimize the financial loss to the producer by decreasing mortality must be continuous.

Considerable experimentation with sulfamerazine as a prophylactic agent against this infection and as a drug for the treatment of the infected birds3 has been undertaken. Good results have been obtained by the prophylactic administration of sulfamerazine in the dry or wet mash in a concentration of 0.5 per cent;2 less satisfactory results have been reported when the compound has been used in the treatment of chicks showing clinical symptoms of the disease. It has been suggested that these results can be explained by the many birds that had ceased to eat and, therefore, received none of the medicated mash. In the majority of field cases, a considerable percentage of the flocks have reached the symptomatic stage by the time a diagnosis is obtained and medication can be started.

Since sulfamerazine had been shown to be effective as a prophylactic agent against Salmonella pullorum infection,1 it was decided to determine its efficiency in actively infected chicks and to devise a method of medication that could be used as mass treatment, even though many of the infected chicks had ceased to eat. The majority of chicks showing symptoms continue to drink for a period after the appetite completely disappears. It was decided. therefore, that the most practical method of administering a therapeutic agent to the greatest number of infected chicks was in the drinking water. Also, since the water intake of a chick is considerably greater than the feed consumed, the concentration of the sulfonamide was decreased from the concentration recommended for (0.5% to 0.25%) in the water.

The sodium salt of sulfamerazine proved to be applicable for administration in water since it is readily soluble and does not color the water. In previous tests with other agents, it was noted that change in the color of the drinking water decreased the intake by the birds for a day or two even though the taste was not changed.

All chicks brought to the laboratory for diagnosis and having a history and lesions suggestive of pullorum disease were diagnosed tentatively as such, and the flock owner was consulted for permission to

TABLE 1—Sodium Sulfamerazine (0.25 Per Cent in Water for Five Days) as a Treatment of Pullorum Disease.

Flock no.	Age at outbreak	No. dead at begin- ning of test	S. pul- lorum isolated	No. treated	Mortality in treated birds	No. untreated	Mortality of untreat- ed birds	No. birds in original flock
1	10 days	42	yes	229	11	229	180	500
2	15 days	8	yes	46	2	46	15	100
3	15 days	21	yes	39	3	40	19	100
4	9 days	30	yes	85	10	85	83	200
5	11 days	16	yes	242	4	242	33	500
6	15 days	4	yes	98	0	9.8	23	200
7	13 days	15	yes	42	7	43	20	100
8	12 days	80	yes	210	8	210	92	500
9	13 days	7	yes	96	2	97	16	100
10	10 days	12	yes	44	3	44	15	100
Total		235		1,131	50	1,134	496	2,400

place the remaining birds of the flock on test. At the same time, bacteriologic cultures were obtained and, if these proved to be negative or to be complicated by a secondary invader, the flock treatment was continued, but the data were not recorded for this report.

In each flock placed on test, the chicks were divided into two groups. One group consisted of those that did not show signs of the disease, and the other group consisted of the clinical cases. The latter group alone received sodium sulfamerazine. In all cases, the feed, brooder temperature, and management remained unchanged. Both groups in each flock received the same feed and water with the exception that half of the flock received an addition of 0.25 per cent sodium sulfamerazine in the drinking water for a five-day period.

It will be noted in the accompanying table that the mortality of the treated chicks was decidedly less than that of the control group. The mortality of the treated half continued unchanged for approximately twelve hours after medication was begun and then steadily decreased until it was almost zero at the beginning of the The administration of sulfathird day. merazine after the fifth day appeared to be useless; it merely increased the cost of the flock medication and probably was unnecessary since it appears that these chicks retained a considerable amount of the sulfonamide in their tissues for some time after medication was stopped. Although each flock was observed closely from the time the outbreak had ceased until the birds were marketed at the proper age, there was no recurrence. The pronounced decrease in the mortality of the treated portion of the flock, in contrast to the control group, was surprising when it is considered that all visibly infected birds were placed in the treated group.

Autopsy and bacteriologic examinations were conducted on all chicks that died during the course of this test, and S. pullorum was isolated from both groups.

Unfortunately, the number of flocks and individual birds used in this test were not as large as is desirable, but it is believed that the limited data obtained offer reasonable evidence that sodium sulfamerazine in 0.25 per cent concentration in the drinking water will aid in decreasing the mortality in a flock of chicks infected with S.

pullorum. The drug also served as an effective prophylactic agent for chicks that were known to have been exposed to the infection either in the incubator or brooder.

It is not recommended that any survivors of any outbreak of pullorum disease be kept for egg production. The use of sodium sulfamerazine should be limited to three days, and the survivors never should be kept beyond the earliest profitable marketing age.

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The Effect of Sulfonamides in Reducing Mortality
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Treatment of Leptospirosis (Weil's Disease)

Penicillin injections beginning the first day of hospitalization, whole blood transfusions from recovered donors, and careful nursing are recommended as the treatment for Weil's disease by Patterson of Hawaii (J. Am. M. A., 134, July 26, 1947: 1077-1080). Sulfonamide compounds are not recommended.

Mares' Milk Compared with That of Other Sources

Holmes and others at the Massachusetts station (J. Dairy Sci., 30, June, 1947: 385-395) found that milk from mares contains more water than cow, goat, ewe, buffalo, camel, or human milk; more protein than human milk but less than that from each of the other sources mentioned; more ascorbic acid than cow, goat, or human milk; less phosphorus than cow or goat milk but more than human milk; only about onethird as much potassium as cow or goat milk; and less magnesium and calcium than cow or goat milk, but about four times as much calcium as human milk. The ratio of calcium and phosphorus is considerably higher in milk from mares than in cow or goat milk, but perhaps lower than in human milk.

Melanoma is the most common tumor of the human eye.

The Dynamics of Certain Drugs

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THE PHASES of medicinal therapy have been divided into ancient, medieval, and modern. Many of the remedies suggested and used in ancient times are still effectively used today. A fuller understanding of the basis for the therapeutic indications for drugs started about the middle of the nineteenth century. The science of pharmacology could not develop until accurate means for measuring and recording the results of drug action had been developed.¹

The study of the anatomy and physiology of the autonomic nervous system has furthered our knowledge of the mode of action of drugs. Evans² described an agent, which we now know to be acetylcholine, that acts as the chemical mediator between the cholinergic nerve ending and the effector, whether it be nerve, muscle, or gland. Likewise, Chen and Schmidt³ described an adrenalin-like substance at the adrenergic nerve ending capable of exciting or inhibiting selected tissues of the body.

These two discoveries simplified our studies of pharmacology. Scientific investigators, knowing the formula of the acetylcholine, created effective agents with similar action. Such an agent is Lentin. Knowing the distribution of the cholinergic nerves, the veterinarian gives these parasympathomimetic agents and knows what action to expect.

The enzyme, choline esterase, produced by the effector, normally destroys the acetylcholine. The veterinarian uses an agent which will interfere with the choline esterase to prolong and intensify the action of the parasympathetic nervous system. Such an agent is eserine. The use of eserine as a ruminatoric has a sound pharmacologic basis; 4 it interferes with the choline esterase, the tonus and motility of the rumen are increased.

Chloroform has been widely employed as a general anesthetic for large animals. It markedly depresses the action of the heart by stimulating the vagus nerves. The use of atropine prevents this action.⁵ The atropine interferes with the chemical mediator, acetylcholine, which is liberated at the vagal endings. The effector cells in the heart

are said to be "waterproofed" to the liberated acetylcholine.

Procaine and other cocaine substitutes in local anesthesia have a common fault. They cause vasodilation and proneness to hemorrhage which is undesirable in surgery. Procaine acts as an enzyme competing with the adrenalin or sympathin being constantly discharged at the vasoconstrictor endings.⁶ Local vasodilation occurs. The procaine has a greater affinity for receptive areas on the smooth muscle cells of the blood-vessel wall than does the normally produced chemical mediator, sympathin.

The clinician masks this local action of the procaine by including a relatively large number of epinephrine or neosynephrine molecules.7 These flood the effector cells and interfere with the unwanted action of the procaine molecules. Epinephrine 1: 50,000 aqueous solution or neosynephrine 1:2,000 aqueous solution is recommended as the diluent for the local anesthetic. Either of these, by causing constriction, intensifies and prolongs the action of the local anesthetic. In a similar manner, epinephrine has been successfully used for relief of urticaria. The vasoconstrictor cardioaccelerator action of the epinephrine counteracts the peripheral vasodilation and capillary permeability.

As mentioned earlier, a thorough knowledge of the pharmacology of drugs is a great time saver. Ephedrine, a sympathomimetic agent, also causes vasoconstriction but by a different mechanism. The sympathin, secreted by the adrenergic endings of the sympathetic nervous system, is destroyed by an enzyme in the tissues and blood, amine oxidase. The drug ephedrine, also cocaine, blocks the action of amine oxidase. This compares to the action of atropine on the enzyme choline esterase.

These facts have served as a ground work for more recent discoveries concerning the probable enzyme-like action of many drugs.

With the introduction of the sulfonamides in the last decade, a further elaboration of the enzyme mode of action of drugs has developed. Early users of sulfanilamide discovered that it was of no value in the presence of excess "protein split products." Pus in a wound nullified the action of the sulfanilamide. Procaine interfered with the action of sulfanilamide. was this accomplished?

The sulfonamides are known to interfere with bacterial metabolism, especially when the bacteria are multiplying rapidly. Some have compared the sulfonamide molecule to a key.9 When this key is brought into contact with the bacteria, it joins on to their essential molecules. The key is placed in the keyhole. The sulfonamide replaces molecular space needed by essential elements for the bacteria's continued existence and multiplication. The bacteria die. a comparison is made between the structural formula of a sulfanilamide and para amino benzoic acid (PABA), this probability of replacement may be perceived:

H H H
$$N < -> SO_2N$$
 $N < -> COOH$
H H H
Sulfanilamide PABA

The continued and extensive use of the sulfonamides should require an awareness of the potential dangers involved should the key be removed from the lock too soon or should too few keys be supplied. The invading bacteria would again become rampant or might build up an immunity to the drug. It becomes ineffective. The same applies to penicillin and the other antibiotic agents.

A related field is that of the vitamins. The vitamin concept usually presented is one of the deficiency in the diet. Evidence is accumulating that analogues of vitamins, such as pyridine sulfonic acid for nicotinic acid, can be administered to animals and produce typical deficiency symptoms. As we learn more of the enzyme action of drugs, we understand more fully the probability of producing deficiency diseases by certain drugs.

Various sweet clovers contain an aromatic substance coumarin. When sweet clover hay is improperly stored, a toxic substance, dicoumarin, is produced from the coumarin. When the hay containing the toxic principle is fed to animals, the normal formation of prothrombin is inhibited.10 In a period of fifteen to thirtyfive days, the coagulation time is so prolonged that fatal hemorrhage often de-Minor operations are definitely contraindicated. Link11 discovered that dicoumarol breaks down into salicylic acid. Rapoport et al.12 lowered the prothrombin content of human blood by the administration of salicylates. Phthallic acid is structurally similar to salicylic acid. The salicylates and dicoumarol can cause hemorrhage from hypoprothrombinemia by competing with phthallic acid, formed during the metabolism of vitamin K, for some enzyme center in the tissue.

The development of this positive explanation of deficiency leads one to ask: "May we soon be able to decrease the activity of certain hyperactive tissues in the body?" This is already being done in certain instances. The relatively new drug, thiouracil, is being used to depress the overactive thyroid. 13 The use of diethylstilbestrol pellets for caponizing cockerels and roosters would be an example of interfering with enzyme-mediated metabolic processes.

This newly created interest in pharmacology requires a working knowledge of the facts available. Many of the drugs used have a rational pharmacologic basis. Others will be eliminated from the list of drugs of value to the medical professions. Much research should be done by the pharmacologists in order that the clinician may do as well in therapeutics as he now does in diagnosis. This is particularly important in the field of veterinary pharmacology.

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Successful Treatment of Trichomoniasis in Two Bulls

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It is the purpose of this paper to record the successful treatment of 2 bulls affected with trichomoniasis. The treatment employed was first described by Bartlett at a short course for veterinarians held at the Georgia Coastal Plain Experiment Station on July 10, 1946, and later reported by him.¹

The purebred Guernsey herd, in which 3 trichomonad-infected bulls—designated as bulls A, B, and C—had been regularly serving, averaged over 100 animals for a period of eight years. The herd was accredited

Animal Diseases of the Georgia Coastal Plain Experiment Station, of vaginal washings obtained from 2 cows that were eliminating from their genitals a clear, viscid, mucoid material, revealed *T. foetus*.

Following the positive diagnosis of trichomoniasis, all open heifers previously exposed to infection and all open cows exposed since their last calving were given sexual rest for three months. Artificial insemination was begun, using semen from a bull that had not previously been used for breeding purposes. As an added precau-

TABLE I—Dates of Preputial Examinations or Vaginal Examinations of Virgin Heifers Test-Bred to Designated Bulls

Bulls	3/28 46	4/25 g eu	5/15 46	5/29 46	6/6 46	6/12 46	6/19 46	7/11 46	with	9/6 46	10/10 46	11/5 46	2/19 47
A	+	+ per		+	_	-	+	+	PA	_	_		-1
B	-	- 47	+*		-	-	-	+	ZZ	Season 10	-		Sold
C	Control .	Ac Ac	+.		-			-	rea	-	-	-+	

*Vaginal washings from a heifer bred to each bull. †Vaginal washings from 5 virgin heifers bred to the bulls. ‡Vaginal washings from 4 virgin heifers bred to bulls.

brucellosis-free, no reactors ever having been present. Following the introduction of a new bull, supposedly virgin, breeding difficulties were encountered. Instances of females requiring repeated services over periods of several months before becoming settled were frequent. Some females, when thought to be several months pregnant, unexpectedly returned to heat. Over a period of eight years, there were about 40 abortions, the number varying from two to seven per year.

Although the owner and his veterinarian suspected trichomoniasis, laboratory diagnosis, based on identification of *Trichomonas foetus*, was not made until Feb. 16, 1946. The microscopic examination by one of us (W.L.S.), at the Department of

tion, this bull was permitted to serve a virgin heifer; two weeks later examination of this heifer failed to reveal trichomonads.

Preputial samples were examined from the 3 herd bulls according to the method of Bartlett.^{2, 3} Two examinations at monthly intervals revealed trichomonads in the washings of 1 bull, but not in the other 2 (fig. 1). As it was desired to resume use of these 2 bulls if found uninfected, as soon as possible, it was decided to test-breed them to virgin heifers. Vaginal washings from the heifers taken two weeks after breeding revealed both to be heavily infected with *T. foetus*. Neither of these heifers became pregnant.

Despite a poor prognosis, it was decided to try the acriflavine treatment recommended by Kust⁴ on the bull that had shown infection on the first test. Accordingly, under epidural anesthesia one of us (H.A.B.) treated the bull at weekly intervals with urethral douches of 0.1 per cent acriflavine solution followed by a thorough massaging of a 0.5 per cent acriflavine ointment into the penis and as much of the

From the Department of Animal Diseases (Sippel), Georgia Coastal Plain Experiment Station, Tifton; practitioner, Quitman, Ga. (Bassham); dairyman, Quitman, Ga. (Bennett).

We acknowledge the aid and advice of Dr. David E. Bartlett, Zoölogical Division, U. S. BAI, Beltsville, Md., in confirming our diagnosis, outlining the sodium judde treatment, and in other ways.

sodium iodide treatment, and in other ways.
Dr. Wayne N. Plastridge, Storrs, Conn., ran the agglutination tests for Vibrio fetus and made suggestions relative to the handling of this infection.

sheath as was possible to reach. This treatment was repeated three times. Two weeks after the last treatment a preputial washing from the treated bull was examined and found to be positive.

Three subsequent examinations of preputial washings from the 3 bulls, taken within the next month, revealed only one positive sample, that from bull A.

Following the presentation of his paper referred to above, Dr. David E. Bartlett examined the 3 bulls and obtained preputial washings from them on July 11, 1946. Two of the 3 bulls revealed trichomonads. Dr. Bartlett outlined a treatment schedule based on a dose of 44 Gm. per 1,000 lb. of body weight of sodium iodide to be given intravenously at 48-hour intervals for five treatments. This regimen was followed. The drug was administered by one of us (H.A.B.). During the course of treatment, a marked iodism as evidenced by typical skin changes appeared in the animals. These lesions disappeared rapidly after completion of the treatments, leaving the skin apparently normal. When the treatments were complete, preputial washings from the 3 bulls were examined at fortyeight and seventy-nine days, respectively, and found to be negative. It was, therefore, decided to test-breed the bulls to virgin heifers. Bulls A and C were each bred to 2 heifers, while bull B was bred to 1 heifer. Two weeks after the service, vaginal washings from these 5 heifers were examined without revealing any trich-The heifers bred to bull A did omonads. not conceive, those bred to bulls B and C conceived and were with calf seven months later. Due to his age, difficulty in teaching him to breed artificially, and for other reasons, bull B was sold for slaughter at Although his post-treatment this time. observation is not complete, it should be noted that the examinations did not reveal evidence of infection. In order to check the encouraging results of the first test breeding, bulls A and C were each again bred to 2 more virgin heifers. Seventeen days after the service vaginal washings from these 4 heifers were examined without any trichomonads being found. All 4 conceived and were with calf four months later. It is believed that had trichomonads been present in the bulls they would have been found in the heifers at the time examined.

Following the apparently successful treat-

ment of the bulls, 3 cows aborted between the fourth and sixth months of pregnancy. Blood samples were drawn from these cows and sent to Dr. Wayne N. Plastridge of the Storrs Agricultural Experiment Station to be examined for agglutinins for Vibrio fetus. His report revealed 1 cow positive at 1:200 and 1 positive at 1:400. He considered 1 a reactor and 1 suspicious. The cow that was positive at 1:400 aborted eighty-six days after being bred artificially to a bull that was free of bovine venereal trichomoniasis. Dr. Plastridge is continuing study of the Vibrio infection.

How long this infection had been present or what part it had played in the annual abortion rate, we are, of course, unable to say. The owner and his veterinarian had suspected the simultaneous presence of the two diseases due to the stages of pregnancy in which some of the abortions occurred.

SUMMARY

1) Two bulls were freed of infection with *Trichomonas foetus* by the intravenous injection of 44 Gm. of sodium iodide per 1,000 lb. of body weight at 48-hour intervals for five treatments. This conclusion is based on the fact that each bull was bred to 4 virgin heifers within 190 days of completion of the treatment without any of the heifers becoming infected.

2) An instance of concomitant existence of bovine venereal trichomoniasis and *Vibrio fetus* infection is reported. The diagnosis of the presence of *V. fetus* infection was based on midterm abortion and a positive agglutination titer.

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To supply every person in the United States with an adequate quantity of milk would require about 150 billion lb. per year, or around 30 billion lb. more than the present annual production.—From Successful Farming.

The Toxicity of Sodium Monofluoracetate (1080) for Swine and Chickens

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SODIUM MONOFLUORACETATE, commonly designated as 1080, is one of the most toxic rodenticides developed in recent years. It is very effective for the destruction of rodents but equally toxic for domesticated animals and poultry. It is soluble in water and may be used as a solution or mixed with a suitable bait material for the extermination of rodents. This agent is effective in extremely low dilutions. The use of highly toxic chemicals creates problems for the producers of livestock because comparatively small amounts consumed by domesticated animals and poultry will cause serious losses. It has been found that 5 mg. per kilogram of body weight is sufficient to destroy the common Norway rat.

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There is little information published regarding its toxicity in domesticated animals. Frick and Boebel1 reported the lethal dose of 1080 to be about 5 mg. per kilogram of body weight for horses. They also found that certain tissues of animals poisoned by this chemical were highly toxic for dogs.

Experiments were carried out to determine its relative toxicity for swine and poultry. These species were selected as they are more likely to consume poisoned bait accidentally than strictly herbivorous animals. Being omnivorous, these species might be poisoned by eating carcasses of animals destroyed by this rodenticide.

TOXICITY FOR SWINE

Swine ranging in weight from 50 to 150 lb. were selected as experimental animals. Sodium monofluoracetate manufactured by the Monsanto Chemical Company was used as the toxic agent. The animals were weighed and the designated dosages were calculated according to the body weight. The rodenticide was dissolved in water and administered with a stomach tube directly into the stomach to insure proper dosage. Observations were made to determine the symptoms manifested by the experimental animals.

Symptoms.-Shortly after the administration the swine appeared restless and hypersensitive. Increased respirations and heart action were observed. One-half hour to two hours following the administration of the toxic solution there was nausea and vomiting depending largely on the individual animal and the dose employed. Weakness and depression with an ever increasing heart beat were evident. Convulsions and spasms occurred in some animals while others soon became comatose. Those subjects showing severe nervous reactions moved about the pens squealing, then fell down on their sides with rapid leg motions simulating running movements. This action was followed by convulsions and death. Symptoms resembling strychnine poisoning were manifested in some cases. Those animals showing a comatose condition would maintain a sternal recumbent position or lie on one side shivering. Prior to death, the heart action was so rapid and weak that the pulse rate could not be determined.

The preliminary experiments were carried on with a dose range comparable to that reported lethal to rodents, but it was found that such dosages produced death in swine in a very short time. The doses were then reduced to 1 mg. per kilogram of body weight. The purpose of the larger doses was to develop well-defined, characteristic, pathologic lesions if possible. The experimental results are summarized in table 1.

TABLE I

Animal no.	Dosage in mg./kg. body wt.	Results
1	1	Dead within 20 hr.
2	2	Dead within 18 hr.
3	3	Dead within 3 hr.
4	4	Dead within 21/2 hr.
5	5	Dead within 2 hr.
6	10	Dead within 1 hr.
7	10	Dead within 3 hr.
8	15	Dead within 1 hr.
9	15	Dead within 1 1/2 hr.
10	. 20	Dead within 40 min.
11	20	Dead within 65 min.
12	25	Dead within 45 min.
13	25	Dead within 40 min.
14	30	Dead within 55 min.

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Postmortem Findings.—The outstanding, of this substance per kilogram of body characteristic, pathologic changes found in all the experimental animals were the hemorrhages on the heart, cardiac degeneration, and the dark, tarlike color of the blood. The animals which received the higher doses showed the more severe lesions. They frequently developed a mild

TARLE 2

	IADLE 2							
Chicken no.	Dosage in mg./kg. hicken no. body wt. Results							
1	5	Very mild clinical symptoms. Recov- ered.						
2	7	Mild clinical symp- toms. Recovered.						
3	9	Mild clinical symp- toms. Recovered.						
4	10	More severe clinical symptoms. Recovered.						
5	14	Dead within 38 hr.						
6	14	Severe clinical symptoms. Recovered.						
7	15	Dead within 44 hr.						
8	15	Dead within 16 hr.						
9	20	Dead within 46 hr.						
10	20	Dead within 40 hr.						
11	25	Dead within 26 hr.						
12	25	Dead within 25 hr.						
13	30	Dead within 30 hr.						
14	30	Dead within 24 hr.						
15	35	Dead within 34 hr.						
16	35	Dead within 20 hr.						
17	40	Dead within 48 hr. Dead within 16 hr.						
18	40	Deau within 16 hr.						

gastritis, with degenerative changes in the liver and kidneys. In several cases, the bladder was greatly distended with dark, brownish colored urine. Petechial hemorrhages appeared on the pericardial sac of 2 animals. The lungs appeared normal in most cases, but petechial hemorrhages were found on the surface of the lungs of 1 subject together with an excess of fluid in the pericardial sac and thoracic cavity. The blood was comparatively thick in several subjects to which the larger doses were given. The animals receiving the smaller doses developed heart lesions only and the blood appeared dark and somewhat watery in consistency.

DISCUSSION

It is impossible to determine the minimum lethal dose of sodium monofluoracetate in pigs by means of oral administration because of the vomiting produced. There is no way of determining the amount of toxic material eliminated in this manner. It suffices to know that a pig consuming 1 mg.

weight will retain a sufficient quantity of the toxic agent to produce death in a comparatively short time. The lethal dose could readily be determined by intravenous injection, but this would be of academic interest only and of little practical importance.

TOXICITY FOR CHICKENS

White Leghorn chickens ranging in weight from 1,000 to 2,350 Gm. were selected for experimental studies. The birds were weighed and the doses were calculated and administered according to body weights. The technique used was similar to that previously described. A glass pipette was used to administer the sodium monofluoracetate solution directly into the crop of the bird. The birds were taken directly from the flock and had not been fasted prior to the experiment. The experimental results are summarized in table 2.

From the results tabulated in table 2. definite toxic symptoms may be produced in chickens receiving as little as 5 mg. of sodium monofluoracetate. The minimum lethal dose appears to be about 14 mg. per kilogram of body weight.

It seemed desirable to determine if there was a definite cumulative effect of this chemical on chickens. The birds which had received sublethal doses and recovered were given repeated doses of the same magnitude forty-eight hours after the initial dose. The results are tabulated in table 3.

TABLE 3

Chicken no.	Dosage mg./kg. body wt.	Result			
1	Initial dose 5 mg.	Very mild symptoms			
	2nd 5-mg. dose 48 hr. later	Recovered. Dead within 40 hr.			
2	Initial dose 7 mg. 2nd 7-mg. dose 48	Mild symptoms. Re-			
	hr. later	Dead within 48 hr.			
3	Initial dose 9 mg.	More severe reaction			
	2nd 9-mg. dose 48	Recovered.			
	hr. later	Dead within 20 hr.			
4	Initial dose 10 mg.	Severe reaction for			
	2nd 10-mg. dose 48	hr. Recovered.			
	hr. later	Dead within 24 hr.			

Symptoms.—Shortly after the administration of the sodium monofluoracetate, the birds showed a slight restlessness followed by increased respirations and heart action. Those birds receiving sublethal doses showed a decided blanching of the comb and wattles. The heavier doses produced a congestion and later cyanosis of those appendages. Respirations became progresA.

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sively more rapid, and breathing through the mouth was observed in the majority of the fatal cases. The birds became progressively weak and comatose. Few individuals developed nervous symptoms and convulsions prior to death.

Postmortem Findings. — The pathologic changes found in the organs of the chickens were much more severe and better defined than those found in the swine. The pericardial sac was greatly distended with clear straw-colored fluid. In many cases, petechial hemorrhages were present on the pericardial sac. The heart had well-defined hemorrhages in the myocardium as well as on the endocardium. Severe degeneration of the heart tissue was observed especially when heavy doses had been administered. The blood was thick in most instances and Severe edema of of dark, tarlike color. the lungs was recorded in all cases. Large quantities of straw-colored serous fluid accumulated in the thorax, but there was no excessive collection of fluid in the abdominal cavity. The liver was dark and the gall bladder distended and filled with a bright green, watery bile. The spleen appeared normal, but degeneration of the kidneys was evident in cases which received the larger doses. A mild enteritis was observed in some of the less acute cases. Petechial hemorrhages were present on the breast muscles of 2 birds. One subject developed a subcutaneous edema in the region of the neck and breast. General cyanosis and congestion developed to a greater extent in the birds which were given two sublethal doses.

DISCUSSION

The excessive accumulations of serous fluids in the pericardial sac and lungs were common to all cases. Hemorrhages of various sizes on the surface of the heart and petechiation of the endocardium were prevalent in all subjects. The blood was dark in color and varied greatly in consistency. The gall bladder was distended and filled with bright green, watery bile in every case. The other lesions described were variable and were not consistently found in all cases. Chickens are apparently more resistant to poisoning by sodium monofluoracetate than swine. This chemical produces more violent symptoms in swine and produces death much more rapidly. This substance acts directly on the heart and produces no generalized pathologic changes characteristic of some types of toxemia.

SUMMARY

The toxicity of sodium monofluoracetate has been determined for swine and chickens. The characteristic symptoms and lesions have been described for both species. Swine are particularly susceptible to poisoning by this agent. The minimum lethal dose is much less than that reported for the common Norway rat or the horse. Chickens can tolerate larger doses than swine and are slightly more resistant to this type of poisoning than the common rat or the horse. Repeated sublethal doses administered to chickens show its cumulative effects.

Infectious Anemia Outbreak Perils Thoroughbred Industry

Horse owners and veterinarians throughout the nation have been alerted for action against the spread of equine infectious anemia, or "swamp fever." Outbreaks are now known to have occurred at the Suffolk Downs and Narragansett Park race courses in the spring and early summer, culminating in a severe epizoötic late in August when horses from these tracks were shipped to the Rockingham Park track near Salem, N. H. Diagnosis was made by Dr. H. M. Lewis, Nashua, N. H. and was verified by Drs. L. O. Mott and C. D. Stein of the U.S. BAI. The records reveal that 47 out of over 900 horses stabled at Rockingham became infected, and it seems probable that many more cases, particularly in the mild form that could be confused with other ailments, were not detected. An influx of horse flies at Suffolk Downs is considered a major etiologic factor, although indiscriminate use of hypodermic syringes by laymen is believed to be a contributing cause.

Veterinarians, private breeders, and the major horse-racing organizations are tightening precautions against further spread of the disease by strict quarantine and by careful disposal of dead animals. Though this outbreak is not known to have moved outside the New England area, the danger of national spread is imminent because exposed horses were shipped to tracks in other parts of the country prior to positive diagnosis of the trouble.

A further report on the outbreak, including information obtained from Dr. R. W. Smith. state veterinarian of New Hampshire, will be published in the November issue.

NUTRITION

The Protein Requirements of Growing Puppies

VICTOR HEIMAN, Ph.D.

Waverly, New York

THE IMPORTANCE of protein in the diet of the growing dog is fully appreciated by those concerned with dog feeding. Despite this, the literature on dog nutrition is largely barren of specific controlled experiments on this aspect of dog feeding.

McCay¹ states that "No good data are available to show the level of high quality

Table I—Distribution of Puppies Among Experimental
Groups

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Group	Puppy	~	Weight	T
No.	No	Sex	(Gm.)	Litte
	21	Male	2,700	1
	25	Male	2,160	2
1	26	Female	2,000	2
	27	Female	1,700	1
		Total	8,560	
2	28	Male	2,360	2
	29	Male	1,880	1
	30	Male	1,900	1
	31	Female	2,240	2
		Total	8,380	
3	32	Male	2,400	1
	33	Male	2,200	2
	34	Female	1,780	1 2
	35	Female	2,100	2
		Total	8,480	

protein needed for growth and maintenance." He points out, however, that puppies grew well on a practical ration containing 20 per cent protein. Koehn² gives the protein requirement as 20 per cent (dry basis) for the dog under all conditions.

Morris³ points out that young dogs can be successfully raised on a moist food (35 per cent dry matter) containing not more than 7 per cent protein. A ration such as that would contain 20 per cent protein on the dry matter basis. Robinson⁴ gives a guide table showing 10 per cent protein as desirable in a moist diet. This would presumably be 30 per cent or more of protein on the dry basis. He gives the desired level of protein in the dry diet as 24 per cent.

Koehn and Salmon⁵ have selected 7.5 per cent protein as the minimum standard for canned dog food. Morgan⁶ gives the estimated optimum protein requirement for all dogs as 25 to 50 per cent of the dry ration. Pearson⁷ believes that protein should make up from 22 to 45 per cent of the dry ration, the higher level being recommended for puppies.

It is evident that there are wide differences in these observations and recommendations. The purpose of this report is to present data accumulated at this laboratory during 1939-1940 having a direct bearing on this problem.

EXPERIMENTAL

Experiment 1.—Twelve Cocker Spaniel puppies from two litters were selected for this experiment. All puppies were whelped the same day. Both litters were sired by the same dog, and the dams were sisters.

The puppies were completely weaned at 6 weeks and were allowed a one-week adjustment period on commercial, meal-type dog food, and water.

At the end of the seventh week the puppies



Fig. 1-Puppies at their feeding stations.

Director of research, Kasco Mills, Inc., Waverly, N. Y.

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were distributed among three groups as shown in table 1.

Rations containing the following levels of protein (air dry basis) were used:

Group 1-17 per cent protein.

Group 2-27 per cent protein. Group 3-37 per cent protein.

The experimental feeds were prepared by first making three premixes. These were: (1) a protein mix containing fish meal, meat meal, and soybean-oil meal at levels of 15, 46, and 39

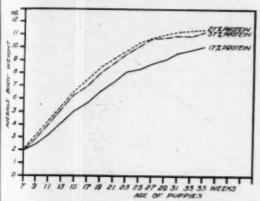


Chart I—Growth curves of Cocker Spaniel puppies on rations containing 17, 27, and 37 per cent protein.

per cent, respectively; (2) a carbohydrate mix containing cooked, flaked cereals; (3) a basal mixture containing vitamin, mineral, and flavoring supplements.

The basal mixture mentioned above was constant in all rations, except that calcium and phosphorus supplements were added where necessary to keep the levels of these elements constant in all rations. The proportions of the

protein and carbohydrate mixes were varied to furnish the protein levels desired.

Puppies were individually weighed each week before the morning feeding. All animals were fed three times daily the first eight weeks of the experiment and twice daily thereafter.

Each puppy was fed separately. Dry feed was weighed out in excess of probable consumption

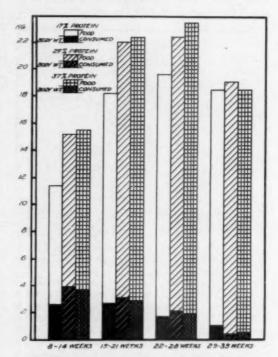


Chart 2—The relationship of growth to feed consumption of Cocker Spaniel puppies on rations containing 17, 27, and 37 per cent protein.

TABLE 2—Growth and Feed Consumption of Cocker Spaniel Puppies Raised on Rations Containing 17, 27, and 37 Per Cent Protein

Froup	Dog no.	Sex	Initial body wt. (kg.)	Final body wt. (kg.)	Total feed consumed* (kg.)	Total protein consumed (kg.)
-	24	Male	2.48	12.16	83.01	14.09
1	25	Male	2.02	10.89	69.89	11.86
	26	Female	1.90	8.60	57.33	9.73
	27	Female	1.58	8.54	60.71	10.30
Aver	age		2.00	10.05	67.74	11.50
	28	Male	2.34	12.56	89.17	24.33
2	29	Male	1.82	12.52	79.96	21.81
	30	Male	1.76	10.70	73.85	20.14
	31	Female	2.20	9.88	72.12	19.67
Aver	age		2.03	11.42	78.78	21.49
	32	Male	2.28	13.50	88.15	32.88
3	33	Male	. 2.08	11.32	78.09	29.13
	34	Female	1.60	9.50	71.03	27.78
	85	Female	1.96	10.52	78.13	29.13
Aver	age		1.98	11.21	78.85	29.72

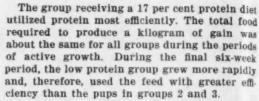
^{*}Air dry basis.

and an equal weight of water was added. The mixture was placed before each animal for fifteen minutes at each meal. The unconsumed feed was weighed back and recorded.

The duration of the experiment was twenty-eight weeks.

Results.—The results of this experiment are shown in table 2 and charts 1 and 2.

The puppies in group 1 (protein 17%) were the most active and restless, especially during



Experiment 2.—The results of the work reported above indicated clearly that the protein

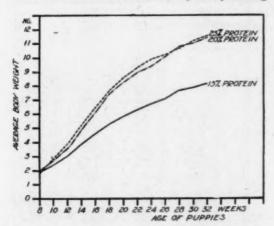


Chart 3—Growth curves of Cocker Spaniel puppies on rations containing 15, 20, and 25 per cent protein.

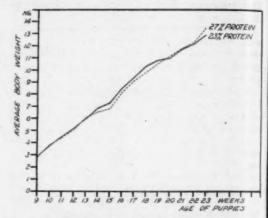


Chart 4—Growth curves of English Setter puppies on rations containing 23 and 27 per cent protein.

the first six weeks. Their coats were not as smooth and shiny as the pups in groups 2 and 3. By the end of the experiment, it was difficult to distinguish one group from the other except for the slightly smaller size of the puppies receiving the diet with 17 per cent protein.

The data shown in chart 2 are of special interest. The body weight gains were greatest during the 8- to 14-week period, decreasing each period till the end of the experiment. Feed consumption reached a maximum during the 22- to 28-week period.

requirement of Cocker Spaniel pupples could now be bracketed much more closely. Accordingly, experiment 2 was outlined in essentially the same way as the first experiment. The protein levels for groups 1, 2, and 3 were 15, 20, and 25 per cent, respectively.

Nine puppies were selected from two litters whelped within a few days and were distributed among three groups as equitably as possible.

This experiment started when the puppies were eight weeks old and continued through thirty-two weeks. Three meals daily were given

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TABLE 3—Growth and Feed Consumption of Cocker Spaniel Puppies Raised on Rations Containing
15, 20, and 25 Per Cent Protein

Group	Dog		Initial body wt.	Final body wt.	· Total feed consumed*	Total protein
no.	no.	Sex	(kg.)	(kg.)	(kg.)	(kg.)
	36	Male	2.58	11.32	58.24	8.81
1	37	Female	1.98	6.38	32.44	4.93
	38	Male	1.42	6.72	36.14	5.49
Ave	rage		1.99	8.14	42,28	6.41
	39	Female	1.92	10.30	48.86	9.81
2	40	Male	2.52	14.96	67.65	13.58
	41	Female	1.56	9.00	43.30	8.68
Ave	rage		2.00	11.42	53.27	10.69
	42	Female	2.20	11.50	51,90	13.08
3	43	Female	1.76	11.00	50.98	12.85
	44	Male	1.98	11.80	57,92	14.61
Ave	rage		1.98	11.43	53.60	13.51

^{*}Air dry basis.

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the first fifteen weeks of the experiment and two meals daily thereafter.

The method of preparing rations and feeding were the same as previously described.

Results.—The results of this experiment are shown in table 3 and chart 3.

Again it was observed that pupples receiving the low level of protein appeared thin and unthrifty. They seemed more alert and energetic than their litter mates receiving more protein. Dullness of coat was again noted on pupples fed the 15 per cent protein ration.

The results of this experiment indicate that, with the combination of supplements used in these rations, the minimum level of protein required for rapid growth was approximately 20 per cent.

Experiment 3.—It seemed desirable to recheck this work using a larger, faster growing breed of dogs. Accordingly, an experiment was set up using English Setter puppies as test animals.

As originally planned the levels of protein selected for the experimental diets were 19, 23, and 27 per cent. Unfortunately, 2 puppies succumbed to distemper at the beginning of the experiment. The animals were regrouped and the experiment started again using only two levels of protein, 23 and 27 per cent.

The pupples were 9 weeks old at the start of this experiment. The test was concluded when they were 23 weeks of age.

The rations used and the experimental methods were essentially the same as previously given. Three meals were offered daily from the beginning of the experiment through the eighteenth week; from the nineteenth week two meals were fed daily.

Results.—The results of this experiment are shown in table 4 and chart 4. No material difference in growth response, appearance, or behavior was apparent in the animals receiving 23 or 27 per cent protein rations.

The data indicate that a level of 23 per cent protein of the combination used in these rations is ample for rapid growth in English Setter pupples. It is possible that slightly lower levels of protein would give equally good growth and development.

DISCUSSION

The protein requirements of growing puppies may be subject to many possible variables. Certainly, the quality of protein supplements in the ration will have a decided influence on the percentage of protein required for normal growth and development. The quality of protein furnished



Fig. 2—Contrast in growth of representative puppies which were raised on diets containing 15, 20, and 25 per cent protein. The puppy on the left received the 15 per cent diet.

by the cereals and other ingredients will likewise have a bearing on this problem. In the 20 per cent protein ration referred to in this report, approximately half the protein was furnished by the cereals and vitamin supplements. The palatability of the food could influence the total feed and protein intake, thus affecting the percentage needed for normal growth.

The possibility of variation in requirements due to breed and other factors cannot be ignored.

TABLE 4—Growth and Feed Consumption of English Setter Puppies Raised on Rations Containing
23 and 27 Per Cent Protein

Group no.	Dog no.	Sex	Initial body wt. (kg.)	Final body wt. (kg.)	Total feed consumed* (kg.)	Total protein consumed (kg.)
1	67 68 69	Male Male Female	3.46 2.70 2.56	13.50 13.84 11.23	40.53 41.00 35.58	9.10 9.20 7.99
Ave	rage .		2.91	12.86	39.04	8.76
2	73 74 75	Male Male Female	2.76 2.26 3.66	12.48 13.02 15.30	38.24 34.38 46.99	10.23 9.19 12.57
Ave	rage		2.89	13.60	39.87	10.66

^{*}Air dry basis.

Expressing the protein needs of growing puppies as a percentage of the total ration on an air dry basis has obvious advantages for those concerned with meal-type or other dry dog food. With fresh, canned, or frozen foods, the high moisture content must be considered. This will materially reduce the percentage of protein required when calculated on the "as purchased" For example, a canned dog food containing 75 per cent water and 25 per cent dry matter would need approximately 5.5 per cent of protein on the "as purchased" basis to be the quantitative equal of a meal-type food containing 20 per cent The validity of this comparison protein. from the viewpoint of the daily protein intake of the animal is based on the assumption that, within limits, the appetite of the dog is satisfied by weight of dry matter intake rather than total weight of the food.

It appears from the results of this work that puppies are not vastly different from the young of many other domestic mammals and fowl in their protein requirements.

Unpublished work at this laboratory shows that the protein requirements of mature dogs are much lower than for growing puppies. This also might be anticipated from experiences with other ani-Presumably, the decrease in protein needs is a gradual change occurring throughout the growth period.

SUMMARY

1) With the rations and methods of these experiments, the protein requirements of the growing Cocker Spaniel was approximately 20 per cent of the air dry weight of the food.

2) Growing English Setter puppies showed no substantially higher protein requirement than Cocker Spaniels.

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⁶Morgan, A. F.: Deficiencies and Fallacies in Canine Diet. North Am. Vet., 21, (Aug., 1940):

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Lactation Vitamin from Oil of Fenugreek

A fat-soluble, thermostable vitamin that stimulates lactation has been isolated from the oil of the fenugreek herb by Dr. M. El Shahat of Cairo, Egypt (Brit. Med. J., Aug. 2, 1947). The fenugreek herb is strongly flavored and is used in Western Asia and elsewhere as a food seasoning. In 350 human cases of lactation deficiency where prolactin and multivitamin therapy had failed, this substance increased the volume of milk between 160 and 900 per cent, particularly in the early stages of lactation, and the milk had a higher fat and vitamin content. It is suggested that the results might not be as spectacular, however, among populations whose diet is basically different from that of the Egyptians.

Allergic Eczema Treated with Riboflavin

A report from Palestine (Refugh Vet... Apr., 1947) points to the value of riboflavin as a detoxicant in allergic conditions of the skin. The patient, a Scotch terrier brought from Vienna, developed alimentary eczema which withstood local therapy but which responded to daily injections of 1 mg. of riboflavin and a low protein diet. Recurrence of the trouble was prevented thereafter by feeding a high carbohydrate, low protein diet. The reporter, Dr. Felix Sulman, suggests that histamine may have provoked the condition, perhaps with the aid of "other substances."

Turkeys Need Concentrated Ration .-Poults require about four and a half times as much vitamin D as chicks, about twice as much vitamin A and calcium, and somewhat more phosphorus, riboflavin, and protein. Likewise, breeding turkeys need a higher level of vitamins A and D and riboflavin than chickens. These facts were brought out in U. S. BAI feeding tests, which also showed that access to good, green pasture can effect a 15 per cent saving in the amount of grain required.

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Our soil resources have been damaged to an alarming degree.—Secretary of Agriculture Anderson.

Vitamins are necessary to rebuild amino acids into protein molecules.

EDITORIAL

Rabies in the U.S.A. in 1946

Inasmuch as rabies in dogs, cats, farm animals, and wildlife is not a reportable disease in many of the states, the figures released by the USDA in May, 1947, must be accepted only as the irreducible minimum. Unfortunately, the number of rabid animals which slink off and die uncounted leaves the registered total incomplete. The data contained in the table below were assembled by the U.S. BAI with the aid of the state authorities. Dr. H. W. Schoening, chief of the Pathological Division and former chairman of the Committee on Rabies, U. S. Live Stock Sanitary Association, author of the release, gives the officially recorded incidence of rabies in the United States as 10,540 cases in 1944, 9,963 in 1945, and 10,872 in 1946.

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As reservoirs of rabies virus and its transmission, dogs have no near competitor. The 8,344 cases in dogs out of the total of 10,872, is the self-revealing guide as to where a "war on rabies" must be waged. Setting aside the 22 human cases, among 1,055 farm animals lost from rabies, cattle with 962 on the list suffered most. Cats provided 455 cases, wild foxes 789 cases, and miscellaneous groupings (skunks, coyotes, chickens) a total of 167 cases.

These figures are not to be translated into degrees of susceptibility to rabies virus. Obviously, the exposure of defenseless, pastoral animals to roaming dogs accounts for the comparatively high incidence of rabies in cattle.

Only 22 human cases among 141 million people possibly exposed to 10,872 rabid dogs, however, is not that easily explained. That only 16 to 20 per cent of persons bitten by reportedly rabid dogs contract rabies (Pasteur) and post-exposure immunization is widely practiced, appears to be the reasonable deduction. Anyhow, where the rabid dog is exterminated (an admittedly feasible task) rabies vanishes. Contrarily, the disease flourishes in countries, like our own, where sanitary measures are not critically pursued. The following table is the well-known story of rabies - of another animal disease that can be, but is not, brought under control.*

The November Journal will contain the 1947 report of the AVMA Special Committee on Rables, including report of a conference on rables at which representatives of seven national associations having an interest in the control of rables formulated a comprehensive program which was concurred in by all of the individual delegates and which has been submitted to the respective associations for consideration and action.

TABLE

State	Dogs	Cattle	Horses	Sheep	Swine	Cats	Goats	Miscellane	ous	Man	Total	
Alabama	642	25	0	0	0	36	1	Fox Monkey	28	1	734	
Arizona	27	C	0	0	0	4	0	Coyote	11	0	48	
Arkansas	148	2	0	0	0	4	1	Fox	5	2	162	
California	355	10	0	1	0	30	0	Various Species*	6	0	402	
Colorado	- 5	0	0	0	0	2	0		0	0	7	
Connecticut	1	- 0	0	0	0	0	0	Fox	1	0	2	
Delaware	1	0	0	0	0	0	. 0	407	0	0	- 1	
District of Columbia	4	0	0	0	0	0	0		0	0	4	
Florida	188	15	1	0	2	7	0		0	0	213	
Georgia	385	54	6	0	0	76	2	Fox Not stated	266 13	8	805	

(Continued on next page.)

TABLE (continued)

State	Dogs	Cattle	Horses	Sheep	Swine	Cats	Goats	Miscellaneo	us	Ma	n Total
Idaho	0	0	0	0	0	0	0		0	0	
Illinois	544	2	0	0	0	0	0	Fox	2	2	550
Indiana	283	12	1	2	0	14	0	Various Species*	10	0	322
Iowa	52	28	3	0	0	15	0	Skunk Civet cat	12	0	111
Kansas		5	1	0	0	3	0		2	0	109
Kentucky		9	1	0	4	8	0	Fox	8 .	0	380
		9.0	0		0	9.4		Fox	19	9	201
Louisiana		30	0	0	0	24	0	Squirrel	0	0	664
Maine		0	0	0	0	0			_		0
Maryland	4	1	0	0	0	1	0		0	0	46
Massachusetts		12	0	0	0	0	0		0	0	1 126
Michigan		13	1	0		5	1				136
Minnesota		0	0	0	0	93	0		0	0	- 0
Mississippi	-	83	11	0	0	23	1	Claumia	68	1	444
Missouri	-	8	0	0	0	8	1	Skunk	2	0	121
Montana	*************	0	0	0	0	0	0		0	0	0
Nebraska		0	0	0	0	0	0		0	0	0
Nevada		0	0	0	0	0	0		0	0	- 0
New Hampshire		0	0	0	0	0	0		0	0	1
New Jersey		2	0	0	0	2	0		0	2	276
New Mexico	12	0	0	0	0	0	0		0	0	12
New York State	380	440	9	2	5	19	3	Fox 3 Raccoon	308	0	1,177
New York City	113	0	0	0	0	0	0		0	0	113
North Carolina	383	12	0	0	1	11	0	Mule Fox	2 3	0	412
North Dakota	0	0	0	0	.0	0	0		0	0	0
Ohio	586	41	2	9	2	25	0	Fox Skunk	71	0	740
Oklahoma	139	10	0	0	0	9	0		0	1	159
Oregon	-	0	0	0	0	0	- 0		0	. 0	0
Pennsylvania		68	3	0	1	22	0.	Fox	24	2	505
Rhode Island		0	0	0	0	0	0		0	0	1
South Carolina	135	2	0	0	0	10	1	Fox Chicken	5 1	0	154
South Dakota	0	0	0	0	0	0	0		0	0	. 0
Tennessee	450	24	1	1	2	23	θ	Fox Not Stated	6 2	1	510
Texas	1,167	44	3	0	5	64	0	Fox Not Stated	17 13	3	1,316
Utah	28	4	0	0	0	1	0		0	0	33
Vermont	0	0	0	0	0	0	0		0	0	0
Virginia	90	5	0	0	0	1	0	Fox Not Stated	3	1	106
Washington		0	0	0	0	0	0	Coyote	1	0	1
West Virginia		7	1	0	0	8	0	Fox	23	0	92
Wisconsin	-	0	0	0	0	0	0		0	0	1
Wyoming		0	0	0	0	0	0		0	0	1
	8,384	962	44	15	22	455	12	7	956	22	10,872

^{*}Includes coyote, fox, rabbit, mouse, gopher, ground squirrel, rat, squirrel, skunk, wild cat, raccoon, opossum, and muskrat.

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The Dynamics of Benzedrine (Amphetamine)

Barely ten years old, few drugs have gained as much popularity as benzedrine. It facilitates the reduction of body weight, checks the appetite of the gourmand, and frustrates the normal tendency to pile on fat—cardinal sin of the glamor world—and does so in a way quite generally pronounced harmless by medical science.

While there is some disagreement as to the mechanism by which the reduction of weight is achieved, there is no dispute as to its power to accomplish that popular end in man. As a rule, physicians do not hesitate to sanction its use in healthy persons of both sexes who wish to abridge objectionable body dimensions. Because gain rather than reduction is the aim in animal production, when, how, where, and if benzedrine has any therapeutic value in veterinary medicine lacks scientific Imagined clinical indications of drugs belong to the eras of the past. So far as the literature on benzedrine indicates, its use in veterinary medicine is limited to the lesson it teaches on the finesse of modern chemotherapy.

In an article entitled "The Mechanism of Amphetamine Induced Loss of Weight," Harris, Ivy, and Searle (J. Am. M. A., 134, Aug. 23, 1947: 1468-1475) describe as follows the suggestions in the literature on mechanisms by which the drug achieves reduction of body weight:

Increases the expenditure of energy by

 a) increasing the basal metabolism or
 b) increasing muscular activity.

2) Induces negative water balance through a) diuresis or

a) diuresis or
 b) reducing the water intake.

3) Causes incomplete digestion or absorbed.

Causes incomplete digestion or absorption by
 a) decreasing motility or

b) decreasing mothity or b) decreasing secretion.

 Reduces the ingestion of food by
 a) decreasing the tone and motility of the empty or fasting stomach or

b) decreasing the desire for food or appetite (dogs starved in the presence of food).

Controlled investigations showed that it is impossible to reduce body weight with a drug acting upon the hunger-appetite mechanism of the brain. By that token, it decreased the willingness to endure the craving for food, notwithstanding that there is no such thing as a sensory cerebral area for appetite. Quoting: "We

failed to find any evidence of chronic toxicity of the therapeutic doses." Furthermore, the authors cited above upset the orthodox teaching that the phenomenon of hunger is dependent entirely upon the so-called hunger contractions of the empty stomach—in short, that there is a difference between hunger and appetite—and, finally, that after all is said and done, benzedrine sulfate reduces weight by simply diminishing the voluntary intake of food. It does what the unaided will power fails to achieve.

World Health Organization

There is growing concern over world health, says Public Health Reports, editorially. Millions of destitute, ill-fed, poorly clothed, and badly sheltered people in many parts of the world are easy prey for disease. Diseases spread and epidemics flourish among them, while misery and death stalk unchecked and leave no nation safe unless aid comes to the stricken ones, which are helpless from lack of money, competent personnel, and modern equipment. Faced with the critical situation, 61 nations signed on July 22, 1946, the constitution of the World Health Organization, the first fully empowered world agency in public health. The hope lies in taking aggressive action against the classic scourges of mankind.

The AMA Protective Councils.—The public, through its physicians, is protected against substandard drugs, apparatus, and foods by scientific councils which have stemmed from the Council of Pharmacy and Chemistry of the American Medical Association, established in 1905, and of the AMA Chemical Laboratory set up in 1906 to aid in carrying out its purpose, all with a Bureau of Investigation. The approval of new and nonofficial remedies, the best known of its functions, is but one of its ramifications. At no time since its founding has the Council been as crowded with "things to do" as since the coming of antibiotic agents, sulfonamides, synthetic estrogens, quinine substitutes, antihistaminic chemicals, and other therapeutic agents which have come streaming into the medical arsenal.

CURRENT LITERATURE

ABSTRACTS

Anaplasmosis Therapy

The larger the number of anaplasms introduced in experimental inoculations, the shorter the incubation period. The red blood cell count or hematocrit value of the blood is not materially affected until the parasites can be demonstrated on blood films, but it drops rapidly within the next few days, and the infection may be considered to be at its peak when macrocytes appear.

It is believed that this information regarding the experimentally produced bovine anaplasmosis will prove of value in determining the efficacy of drugs used in the treatment of the disease.—[John C. Lotze: Variables and Constants in Experimental Bovine Anaplasmosis and Their Relationship to Chemotherapy. Am. J. Vet. Res., 8, (July, 1947): 267-274.]

Veterinary Studies in Poland

Six years of war and German occupation closed the gates of the Polish universities to all of the Polish students who studied before the war and those who intended to study in the future. Poland, therefore, finds herself now with an acute shortage in the veterinary services.

Before the war, Poland had two veterinary schools. One, The Academy of Veterinary Medicine, was in Lwow (now Russian occupied), and the second one in Warsaw was the Veterinary College at the Warsaw University. Both maintained high standards of education. The setup of those two schools was based upon the German system of veterinary education. With an excellent teaching staff, Poland formerly had a great number of students who came from other European countries to obtain their degrees in her veterinary schools.

The war now has been over for two years and Polish authorities have found it necessary not only to restore the two veterinary colleges which had operated prior to war but to establish a new one in addition. The Academy of Veterinary Medicine at Lwow (Russian occupied zone) has been transferred to the western part of Poland in Wroclaw (German Breslau). The teaching staff and equipment remaining were also removed, with Russian permission, to Wroclaw. The other two schools, one in Lublin and the other in Pulawy, have been staffed and equipped from Warsaw University.

The education of new students in postwar veterinary schools is not an easy task. The lack of facilities for the departments, the acute shortage of laboratory equipment with no books, and shortage of all kinds of necessary instruments, creates the hard and slow step forward; but there is a great deal of courage, there is ambition and, Poland's greatest virtue, determination. They hope, they know, that better days are to come.

The Polish veterinary medical journals tell how anxiously Poland expects to replace every veterinary doctor who was thrown thousands and thousands of miles away from his native post by the war. Since the present situation in Poland is not very inviting for those who would want to return, they stay abroad, mainly in England and France. Several of them returned upon the appeal of the Polish Veterinary Medical Association. In 1946 Dr. T. Olbrycht, a prominent professor and chairman of the Animal Husbandry Department, returned to Poland, leaving one of England's universities. He left Lwow in 1939 but was not permitted to return to Lwow. He returned to Wroclaw to teach new veterinarians. - [From Medycyna Weterynarynja, 3, April, 1947. From articles by A. Senze (pp. 281 and 285) and Grzegorz Staskiewicz (p. 287).]

K. ZAKRZEWSKI

21

The Pathology of Epizoötic Lymphangitis of Horses

Middle Europe is usually free of epizoötic lymphangitis. During the first World War, however, many cases were found in Germany. The disease still exists in Italy, Russia, and North Africa. Cases have been reported from France occasionally, but during World War II it increased. Epizoötic lymphangitis appeared in Germany during World War II, also. The author examined 33 cases, postmortem. It is usually stated that the nasal passages are not involved, but in these cases 18 had involvement of the nasal septum. The larvnx, the naso-pharynx, and trachea were involved in 14. 11. and 7 cases, respectively. The lesions of the nasal passages resemble glanders so closely that a differentiation is not possible without microscopic examination. The lesions in all parts of the nasal cavity appear first as small, rounded, grayish white nodules which

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eventually ulcerate and coalesce. There may be perforation of the septum. Microscopically, the characteristic feature is the large histiocyte containing the yeastlike cells of the infecting agent. Free yeast forms are seen in the necrotic areas. It has been shown that this fungus produces free asci with four spores. The microörganism has therefore been called Endomyces farciminosus.—[A. Hemmert-Halswick: The Pathology of Epizoötic Lymphangitis of Horses. Berl. u. Münch. tierürztl. Wchnschr., (Aug., 1947): 13-15.]

A. G. KARLSON

Mycotic Stomatitis in Suckling Pigs

The disease was characterized by aphthae on the nose, on the gums, and inside the lips, swelling of the upper jaw, and a foul odor. The affected pigs rapidly wasted and died. The causative agent was Oidium albicans, the fungus which causes thrush in infants. The organism produces a systemic toxin in addition to the local necrosis.—[A. A. Kovalev, Ukrainian Institute of Experimental Veterinary Medicine: Mycotic Aphthous Stomatitis in Suckling Pigs. Veterinariya, 24, (Jan., 1947): 18.]

ROBERT E. HABEL

Coccidiosis in Chickens and Turkeys

Eight different types of Coccidium affect chickens. The two most virulent types cause more deaths than the other six. Both can be identified in the affected birds by the passage of blood in the droppings. In one form, blood-stained material will be found in the cecums, while in the other there is a severe and extensive inflammation of the intestines. The remaining six types also cause sufficient damage to warrant the use of remedial measures. Two types affect poults and sometimes result in heavy losses.

Coccidiosis is transmitted by means of feed, water, soil, and litter that have become contaminated with the droppings of infected birds. A bird which has recovered from the disease may remain a carrier and a spreader. Infection may be brought into a flock with new birds, on the shells of eggs, by running water, dust, shoes, grain sacks, birds, and flies and other insects. Rats and mice probably disseminate the disease also.

Constant reinfestation results in losses. Every effort should be made to prevent birds from pecking in the droppings. Feed troughs and water fountains should be placed on a wire mesh frame raised from the ground. Dry ground, dry quarters, and meticulous cleanliness are the most important factors in control of coccidiosis. If the parasites are kept dry, they do not sporulate or become infective.

Some form of treatment should be given as soon as coccidiosis is diagnosed. Sodium sulfa-

merazine (1 oz. to 3 gal. drinking water) is strongly recommended, with other products also offering promise. While the medicated water is used, no other liquids should be given.

—[J. S. Glover, Mimeograph Release from Guelph, Ontario, June, 1947.]

Investigations on Atypical Fowl Pest

Fowl pest was not widespread in Germany till 1941. During the summer months of 1943 and 1944 serious outbreaks occurred in Germany, Italy, Hungary, Rumania, and Switzerland. The virus was isolated from organs of frozen chickens imported to Germany from Hungary. Other workers reported that the disease was introduced into Germany by importations of live pheasants from Hungary. One instance of its presence was traced to packages of food sent from North Italy to Italian workers in Germany. Clinically, the disease was not as acute as seen in the usual cases of fowl pest, which suggested that the present outbreaks were due to an atypical fowl pest virus. Subsequently it was shown that the virus was immunologically distinct from the true fowl pest virus. Chickens immunized against the virus isolated from Hungarian chickens were immune to strains isolated from various parts of Germany but succumbed following injections of a laboratory strain of true fowl pest. The disease, infectious serositis, which had been described in 1943 as a new virus infection in chickens, was found to be the same as the atypical fowl pest. It was thought to be similar to Newcastle disease, but no comparative studies could be made .- [J. Fortner and Z. Dinter: Investigations on Atypical Fowl Pest. Berl. u. Münch. tierärztl. Wchnschr., (Oct., 1946): 37-44.]

A. G. KABLSON

Effect of Intravenous Calcium Injections

Calcium gluconate, injected intravenously into normal, nonparturient cows, caused an immediate rise in blood calcium and a simultaneous fall in blood inorganic phosphorus. Similar injections during the parturient period caused less rise in blood calcium and a simultaneous rise in blood inorganic phosphorus. This reaction is known as "phosphorus reversal," and it is attributed to a parturient alkalosis.

Phosphorus reversal (rise in blood level of calcium and inorganic phosphorus) can be produced in normal, nonparturient cows by feeding sodium carbonate. Conversely, the oral administration of an acidifier (Chlor-ethamine, (NH₂CH₂)₂HC1) to a parturient cow seemed to have the effect of increasing the blood calcium rise and tempering the rise of blood inorganic phosphorus which followed intravenous administration of calcium salts.

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The blood calcium returns to the preinjection level within twenty-four hours. The value of this observation in helping to explain the occurrence of parturient paresis and in formulating a logical treatment for this condition remains to be determined.—[A. H. Craige, Jr.: Physiologic Reactions to Intravenous Calcium Injections in the Cow. Am. J. Vet. Res., 8, (July, 1947): 260-266.]

Fowl Typhoid Organisms as the Cause of Gastroenteritis in Man

Of 45 people who had eaten the same noon meal, 29 became seriously ill in the evening with acute gastroenteritis and high fever. Nineteen required hospitalization. The acute illness lasted several days, but in five to eight days all the patients were able to return to work. Stool cultures from 2 patients on the second day of illness revealed a nonmotile microorganism that was only partially agglutinated by typhoid and enteritidis antiserums but was completely agglutinated to the highest titer of a specific pullorum antiserum. It produced acid but not gas in dextrose and arabinose broth. Part of the noon meal consisted of a wheat-grits pudding to which raw eggs had been added. This was prepared on the previous evening and allowed to stand at room temperature before being served. None of the pudding was available for bacteriologic examinations.

Twenty eggs from the same source as those used in the pudding were cultured, and two revealed a microörganism identical with that isolated from the patients and identified as Shigella gallinarum. Serum from the patients agglutinated the cultures.

In another instance, the author succeeded in isolating from the blood stream of a patient with diarrhea, a culture identical to that described above. This patient lived in the same neighborhood as those involved in the outbreak of gastroenteritis. It is concluded that the fowl typhoid microörganism must be considered pathogenic for man and that eggs from infected flocks may be a public health menace.—[Ludwig Popp: Fowl Typhoid Organisms as the Cause of Gastroenteritis in Man. Med. Klin., (May, 1946): 135-136.]

A. G. KARLSON

Bovine Genital Trichomoniasis in Peru

The high rate of sterility and abortion which exists in the cattle of Lima and its surroundings is one of the greatest problems facing the dairy industry. *Trichomonas foetus* has been reported from 28 countries, among them Uruguay and Argentina in South America. There has been no previous report of the infection from Peru.

Vaginal and preputial washings (in sterile

saline) were taken from cows, heifers, and bulls. They were examined under low and high dry power magnification, as well as after staining with Heidenhain's iron hematoxylin. The samples were collected in herds of Holstein-Friesian cattle in Lima, Chiclayo, and Pacasmayo.

A flagellate was found, and it answered the description of T. foetus as presented by Morgan and Lowell (J.A.V.M.A., 102, 1943:11-15). The average size was 10.9 μ by 3.7 μ , with a nucleus 4.6 μ in diameter. There were 4 to 6 undulations in the membrane, the axostyle was clearly visible, the costa ran obliquely to the axostyle, the three anterior flagella were of equal length with the body and with each other, and the posterior flagellum was usually detached in part from the undulating membrane.

A total of 120 animals were examined, of which 6 were discarded because of incomplete data. Results were as follows: Cows, 41 negative, 7 positive; heifers, 56 negative, 7 positive; bulls, 9 negative, none positive.—[V. D. Stauffer and Luis Gonzales Mugaburu: Bovine Genital Trichomoniasis in Peru—a Preliminary Report. Rev. Med. Exper., 5, 1946.]

Intracutaneous Brucellosis Test in Swine

Because previous experiments have indicated that the agglutination test has serious limitations for the diagnosis of brucellosis in individual swine, there is an urgent need for more accurate methods of such diagnosis. Allergic reactions in the skin were studied as one possible method.

A state of allergy was demonstrated by means of two fractions of Brucella suis organisms in swine sensitized by natural and artificial infection. One fraction was a soluble nucleoprotein (SNP) of the bacterial cells, the other was a purified Brucella protein (CA) prepared by repeated acid precipitation of the filtrate of the organisms grown in liver broth. Injection of these skin test materials produced a rise in the agglutinin titer in some swine.

When the agglutination test and the SNP fraction skin test were compared there was agreement in 66 per cent of 100 naturally infected swine, in 68 per cent of 102 artificially sensitized animals, and in 89 per cent of 150 nonsensitized animals. The SNP fraction produced a positive reaction in 66 animals negative to agglutination test while it gave negative reactions in only 18 of the animals positive to the agglutination test among this group of 352 test animals. Similar variations existed between the agglutination test and CA fraction, and between the SNP and CA fractions.

A combination of agglutination test with one or both of the intracutaneous tests would appear to be a more reliable index of infection than any test used singly.— [A. L. Delez, L. M.

Hutchings, and C. R. Donham: Studies on Brucellosis in Swine. VI. Clinical and Histologic Features of Intracutaneous Reactions to Fractions of Brucella Suis. Am. J. Vet. Res., 8, (July, 1947): 225-234.]

A Polyp on the Vocal Cord of a Horse

A horse 13 years old developed what was thought to be an inflammation of the throat, but for months afterward exhibited signs of obstruction of the vocal cords which appeared to lessen in intensity when the horse lay down. Chloral hydrate anesthesia was administered and tracheotomy was performed. A tumor the size of a dove egg was found on the lower surface of the left vocal cord and was removed. It proved to be a polyp. Recovery was uneventful.—[Stanislaw Spiewak: A Polyp on the Vocal Cord of a Horse. Medycyna Weterynaryjna, 3, (Jan., 1947): 23-24.]

L. I. HALLAY

Clostridium Hemolyticum Toxin

A study of the toxin of Clostridium hemolyticum, which causes bacillary hemoglobinuria or red water disease of cattle, has been in progress in the hope of producing a vaccinal product that will confer an immunity of longer duration. The organism forms two toxic fractions, one being highly hemolytic, the other necrotizing.

Opalescence of human blood serum and flocculation of egg yolk solution (lecithovitellin) occur when these substances are combined with Cl. hemolyticum toxin. Because a distinct parallelism exists between these reactions and the lethal and hemolytic actions of the toxin, it is believed that they may be used for measuring the antibody response in vaccinated animals. Ability to measure this response would be a great aid in evaluating vaccination materials.— [A. M. Jasmin: Enzyme Activity in Clostridium Hemolyticum Toxin. Am. J. Vet. Res., 8, (July, 1947): 289-293.]

BOOKS AND REPORTS

United State Pharmacopoeia XIII

No reviewer can boost a book that speaks for itself. Each of the revisions of the U.S.P. which has kept the knowledge of drugs abreast of the times since 1820 is such a book. The thirteenth revision is exceptional because it arrives in a maze of sensational additions to the fields of therapeutics and chemistry. For the first time, English titles are given first place instead of Latin ones, and therefore, changes have been made in the alphabetical arrangement. Water is water, not aqua, and

in consequence will be found under "W" instead of "A." Atropina is atropine and calcii gluconas is calcium gluconate, and so on. New monographs have been added and others omitted pursuant to advancement of the medical sciences.

The thirteenth revision became official Apr. 1, 1947, and as usual, besides in the U.S.A., it will be widely recognized throughout the world, especially in the Latin American countries. Needless to say that "U.S.P." has a definite meaning among the makers and users of drugs. In effect, it spells perfection and merit. The U.S.P. is indispensable to the careful users of drugs, to teachers, to students, and particularly to druggists and manufacturers. In view of the remarkable strides in chemotherapy in the last eventful years, a doctor's library without a copy lacks an important unit .- [Pharmacopoeia of the United States of America. By the Board of Trustees, United States Pharmacopoeial Convention. Cloth. 1,957 pages. 1947. Mack Printing Company, Easton, Pa.]

Diseases Transmitted from Animals to Man

The fact that this is the third edition of this book bespeaks its usefulness. With the help of 14 consultant authors, there is presented an up-to-the-minute discussion on each of 91 important diseases which man may contract from animals. Half of the contributors are veterinarians, and they emphasize the fact that the wide range of diseases spreads this problem into the daily life of every veterinarian—whether he be engaged in large animal or small animal practice, laboratory technique, regulatory work, or commercial venture. The inspectors of meat, milk, and foods generally are concerned more intimately and more frequently—but it is a highly important field to all other veterinarians, as well.

The diseases are discussed under four general headings: those transmissible from domestic animals and birds, those spread by rodents and wild animals, those which are primarily human diseases but spread by animals, and those in which animals are simply passive carriers.

The book contains a wealth of information, it is written in a concise and yet interesting manner, it is well indexed, and it is so attractively printed and compiled that one finds one-self referring to it frequently. Every veterinarian should have a copy at hand, not only for his own information but for presenting facts which should be passed along to animal owners.—[Diseases Transmissible from Animals to Man. Third Edition. By Thomas G. Hull. Cloth. 571 pages, 75 illustrations, 67 tables. July, 1947. Charles C. Thomas, 301 East Lawrence Ave., Springfield, Ill. Price \$10.50.]

THE NEWS

Awarding the AVMA Research Fellowships

The deliberations of the Committee on Fellowships of the AVMA Research Council have resulted in a fairly clear picture of the type of person who can profit most from the AVMA Research Fellowships and in so doing aid the

profession.

First of all, the candidate for a fellowship must have an excellent scholastic record. Since properly conducted graduate work is more difficult than undergraduate, our reason for reliance on past peformance is obvious. This does not eliminate the person with an average undergraduate record from consideration. But unless the applicant stands in the upper 10 per cent of his class, he would do well to demonstrate his ability to do satisfactory graduate work before applying to the Committee. We like to see other evidences of the researchminded individual: the ability to express himself coherently and well in his native tongue; interests outside strictly professional ones; extra study and research beyond that required by the curriculum; the opinion by his references that he has a well-developed "bump of scientific curiosity."

Prospective applicants would do well to pick their references with care. At every institution there are a few men whose approbation is rarely given but by reason of its rarity becomes thereby more valuable. Usually they are doing or have done research work of considerable importance and have a local reputation with the student body of being exacting and discriminating teachers. Good references from men of this sort are helpful because their word in

scientific matters is accepted.

Personality is a difficult thing to evaluate even at first hand, let alone by mail. We have to rely largely upon the candidate's references and upon his application form and letters. Generally, we are against "grinds," "prima donas," and other intellectual misfits that gravitate toward research and teaching because they would fail in other branches of veterinary

medicine.

The candidate should use great care in selecting the institution at which he desires to continue his training. Only under exceptional circumstances will we be willing to assist a person to obtain a graduate degree at the school from which he received his professional degree. Candidates for work in the basic sciences would do well to apply to a leading institution in their specialty even if it has no veterinarian on its staff. Not only will the candidate be thereby assured of adequate training but, also, his work will introduce the best research facilities of the country to the problems of veterinary medicine. Candidates for degrees in the applied fields will, in most cases, work under direct veterinary supervision, but it is hoped that their courses of study will be so oriented as to include training in related basic sciences and applied fields.

The present type of fellowship is designed to meet the needs of younger men. For this reason, they receive preference. The problem of training for older individuals is now receiving

the Research Council's attention.

We are, then, at the present time, interested in helping young men with good scholastic records who, in the opinion of research workers and teachers who know them well, are capable of successful careers in teaching and research and who approach the Committee with a carefully prepared program of graduate study.

COMMITTEE ON FELLOWSHIPS, AVMA RESEARCH COUNCIL

E. T. HALLMAN
JAMES FARQUHARSON
GEORGE H. HART

R. A. KELSEB CARL F. SCHLOTTHAUER J. H. WHITLOCK of

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Dr. C. E. Fanslau Heads Veterinary Exhibitors Association

Dr. Chas. E. Fanslau of Winthrop Chemical Company, Inc., New York City, was elected president of the Veterinary Medical Exhibitors Association, Inc., at the group's annual meeting, held in Cincinnati during the AVMA convention.

Mr. C. Guy Stephenson of Goshen Laboratories, Inc., Goshen, N. Y., was elected vicepresident, and Mr. Roscoe V. Hill of Fort Dodge Laboratories, Inc., Fort Dodge, Iowa,

was chosen secretary-treasurer.

Mr. E. A. Garner of R. J. Strasenburgh Co., Rochester, N. Y., was elected to the executive board. Holdover members of the board are Dr. L. A. Mosher of the L. A. Mosher Co., Atlanta, Ga., Dr. Clarence Campbell of Lederle Laboratories, St. Louis, Mo., and Dr. A. H. Quin of Jensen-Salsbery Laboratories, Inc., Kansas City, Mo.

The group also formed a code of ethics committee, headed by Mr. C. Guy Stephenson.

Rise Stevens Presides Over "Canine Cavalcade"

The Metropolitan Opera star, Risë Stevens, was chairman for New York City of this year's National Dog Week, September 21 to 27. The star of concert stage, screen, and radio, a real dog lover herself, presided over the leading feature of the week, "Canine Cavalcade," held in the lower plaza of Rockefeller Center on the afternoon of September 23. The program honored dog heroes, demonstrated "canine good citizenship" to all dog owners, and portrayed

by a pageant, "Career Canines," the dog's use-fulness and the part he plays in various human occupations.

APPLICATIONS

The listing of applicants conforms to the requirements of the administrative by-laws-Article X, Section 2.

First Listing

AGIN, GEORGE R.

3318 Harrison Ave., Cheviot, Ohio.

D.V.M., Cincinnati Veterinary College, 1909. Vouchers: A. R. Theobald and J. G. Hardenbergh.

ALLEY, TOM K.

6023 Fairfield, Shreveport, La.

D.V.M., Texas A. & M. College, 1945.

Vouchers: A. V. Young and J. K. MacNamee.

ANSON, CHARLES W.

2566 McGuffey Rd., Columbus, Ohio.

D.V.M., Ohio State University, 1926.

Vouchers: C. D. Barrett and E. L. Roshon.

ANTELYES, JACOB

62-09 Fresh Pond Rd., Middle Village, N. Y. D.V.M., Kansas State College, 1938.

Vouchers: B. J. Finkelstein and F. Bloom.

BARBER, RUSSELL A.

Columbiana, Ohio.

D.V.M., Ohio State University, 1938.

Vouchers: N. S. Craver and T. W. Craver.

BELDEN, MAURICE F.

131 Home Ave., Xenia, Ohio.

D.V.M., Ohio State University, 1933.

Vouchers: S. W. Stout and A. G. Madden, Jr.

BONELLI, WM. G. JR.

Rt. 1, Box 4, Saugus, Calif.

D.V.M., Iowa State College, 1946.

Vouchers: C. L. Hare and I. A. Merchant.

BROWN, VICTOR R.

75 James St., Guelph, Ont., Can.

B.V.Sc., Ontario Veterinary College, 1931.

Vouchers: R. A. McIntosh and L. Stevenson.

COMBS, BERTRAND O.

Brooklyn, Iowa.

D.V.M., Iowa State College, 1947.

Vouchers: D. M. Walker and R. R. Dappen.

COOK, WILLIAM G.

911 E. Sandusky St., Findlay, Ohio.

D.V.M., Ohio State University, 1910.

Vouchers: J. H. Lenfestey and H. E. Myers.

CORTIZO B., JOSE M.

Ave. 2a No. 106, 11 y 12, Ampliacion, Almedares, Marianao, Havana, Cuba.

D.V.M., University of Havana, 1939.

Vouchers: J. G. Hardenbergh and M. Stincer.

DAVID, TOMAS T.

College of Veterinary Science, University of the Philippines, Pandacan, Manila, P. I. D.V.M., University of the Philippines, 1927.

Vouchers: A. K. Gomez and A. C. Gonzaga.

FIRTH, GEORGE A.

Delavan, Ill.

D.V.M., McKillip Veterinary College, 1918. Vouchers: J. Sampson and C. E. Fidler.

FRELIH, ERNEST O.

Hacienda Fundacion, San Cristobal, P. T. Dominican Republic.

D.V.M., University of Zagreb, 1937.

Vouchers: H. R. Gomez and J. G. Hardenbergh.

FROST, CHARLES B.

119 N. Main St., Georgetown, Ohio. D.V.M., Chicago Veterinary College, 1913.

Vouchers: F. A. Zimmer and J. J. Arnold.

GREENE, WILLIAM O.

Hillsboro Rd., Nashville, Tenn.

D.V.M., Alabama Polytechnic Institute, 1940. Vouchers: D. Coughlin and R. C. Klussen-

GRIFFIN, MICHAEL J.

903 Dwight St., Holyoke, Mass. D.V.M., Ontario Veterinary College, 1930.

Vouchers: F. M. Austin and D. S. Shannon.

HOVEL, JOHN T.

1242 Church St., Stevens Point, Wis.

D.V.M., Ontario Veterinary College, 1937.

Vouchers: J. K. Bone and J. T. Schwab.

JONES, FREDERICK O.

1707 Vidal Ave., White Rock, B. C., Can. D.V.M., Ontario Veterinary College, 1931.

Vouchers: F. W. B. Smith and J. Dunn.

KARR, OWEN M.

2710 Scioto Trail, Portsmouth, Ohio.

D.V.M., Ontario Veterinary College, 1937.

Vouchers: R. E. Nichols and R. G. Kerans.

McCLAIN, LOUIS C.

213 N. 15th St., Birmingham, Ala.

D.V.M., Alabama Polytechnic Institute, 1946.

Vouchers: M. Heath and E. R. Goode, Jr.

MOKERCHER, DELBERT G.

New York State Veterinary College, Cornell

University, Ithaca, N. Y.

B.V.Sc., Ontario Veterinary College, 1938.

Vouchers: W. A. Hagan and P. Olafson.

MORALES R., ANGEL M.

Industria No. 161, Havana, Cuba,

D.V.M., University of Havana, 1934.

Vouchers: J. G. Hardenbergh and M. Stincer.

PHILLIPS, D. M.

1315 Oakview Rd., Ashland, Ky. D.V.M., Cincinnati Veterinary College, 1916.

Vouchers: J. A. Winkler and S. E. Hersey.

REA, ROBERT G.

201 S. 4th, West Branch, Mich.

D.V.M., Michigan State College, 1935.

Vouchers: B. J. Killham and F. Thorp, Jr.

STEINER, AMIEL J.

184 Walnut St., Lexington, Ky.

D.V.M., Iowa State College, 1918.

Vouchers: E. R. Doll and D. W. Bruner,

STONE, CHARLES E.

206 Elm St., Penn Yan, N. Y.

D.V.M., Grand Rapids Veterinary College,

Vouchers: W. W. Hyde and J. J. Regan.

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VALDES F., MARIO

J. Sanguily No. 338, Guanabacoa, Havana, Cuba

D.V.M., University of Havana, 1937.

Vouchers: J. G. Hardenbergh and M. Stincer.

The following applications are all from members of the newly formed Veterinary Society of Food Sanitarians.

BOYES, NELSON R.

P. O. Box 424, Nebraska City, Neb. V.S., Ontario Veterinary College, 1918. Vouchers: L. H. Burkert and E. M. Lynn.

BROWN, ELI W.

Mammoth Spring, Ark.

D.V.M., Chicago Veterinary College, 1920. Vouchers: E. M. Lynn and C. Alex.

COLLINS, CASSIUS A.

174 Rector St., Perth Amboy, N. J. D.V.M., Kansas City Veterinary College, 1914. Vouchers: E. M. Lynn and L. L. Beck.

CURRIER, BURT L.

2234 Territorial Rd., St. Paul, Minn. D.V.M., Kansas City Veterinary College, 1913. Vouchers: E. M. Lynn and J. G. Hardenbergh.

DOHERTY, STEPHEN S. 235 N. 4th St., Quincy, Ill.

D.V.M., Chicago Veterinary College, 1912. Vouchers: E. M. Lynn and J. G. Hardenbergh. EICHHORN, GLEN F.

c/o Hess Michigolden Duck Farm, Hemlock, Mich.

D.V.M., Indiana Veterinary College, 1918. Vouchers: E. M. Lynn and R. W. Carmack.

GARRETT, ASHTON, C.

3517 S. Western Blvd., Chicago, Ill. D.V.M., St. Joseph Veterinary College, 1922. Vouchers: C. F. Gitz and E. M. Lynn.

GROSS, FRED

219 N. Mt. Holly Ave., Louisville, Ky. D.V.M., St. Joseph Veterinary College, 1917. Vouchers: E. M. Lynn and L. M. Roach.

HOBBS, JOSEPH W.

Rm. 910, U. S. Custom House, 610 S. Canal St., Chicago, Ill.

D.V.M., Alabama Polytechnic Institute, 1938. Vouchers: E. M. Lynn and W. E. Miller.

HOYLMAN, JOHN L. Oxford, Neb.

M.D.C., Chicago Veterinary College, 1903. Vouchers: R. E. Willie and E. H. Hageman.

HYLAND, EUGENE H.

814 Turner St., Los Angeles, Calif. D.V.S., Kansas City Veterinary College, 1908. Vouchers: P. Simonson and E. M. Lynn.

LAW, BUELL S.

2550 W. 35th St., Chicago, Ill. D.V.M., St. Joseph Veterinary College, 1917. Vouchers: E. M. Lynn and W. E. Miller.

MERICLE, ROBERT B.

1300 Marian Way, Sacramento, Calif. D.V.M., Iowa State College, 1929. Vouchers: E. M. Lynn and C. Alex.

PAULISH, CHELSEA, T

205 Blake St., Bentonville, Ark. D.V.M., Ohio State University, 1926.

Vouchers: E. M. Lynn and J. G. Hardenbergh.

PRATER, ARIZONA

524 N. 27th Ave., Omaha, Neb.

D.V.M., Chicago Veterinary College, 1912. Vouchers: R. E. Willie and E. H. Hageman

RENNE, FRANK A. JR.

1213 Buena Vista St., Pittsburgh, Pa.

D.V.M., Kansas City Veterinary College, 1917. Vouchers: E. M. Lynn and J. G. Hardenbergh.

SAILOR, ERNEST S.

75 Woodside Rd., Winchester, Mass. D.V.M., Chicago Veterinary College, 1914. Vouchers: E. M. Lynn and W. E. Miller.

SCUDDER, DANIEL D.

239 Adams St., Pendleton, Ind. D.V.M., Cincinnati Veterinary College, 1913. Vouchers: R. W. Carmack and E. M. Lynn.

SHUTE, JOHN D. Easton, Ill.

D.V.M., McKillip Veterinary College, 1917. Vouchers: E. M. Lynn and L. A. Merillat.

SWINK, CLARENCE E.

Rm. 910, U. S. Custom House, 610 S. Canal St., Chicago, Ill.

D.V.M., Iowa State College, 1927. Vouchers: E. M. Lynn and C. Alex.

THOMPSON, J. L.

426 W. 62nd St., Chicago, Ill.

D.V.M., Chicago Veterinary College, 1913. Vouchers: E. M. Lynn and A. D. Woodruff.

TOFFLEMIRE, CHARLES D. Cameron, Mo.

D.V.M., St. Joseph Veterinary College, 1921. Vouchers: R. W. Carmack and E. M. Lynn.

WINDER, HIRAM L. Independence, Iowa.

D.V.M., Chicago Veterinary College, 1913. Vouchers: E. M. Lynn and W. E. Miller.

WISHARD, DELL E.

c/o General Foods, Pocomoke City, Md. D.V.M., Indiana Veterinary College, 1911. Vouchers: F. S. Entwisle and E. M. Lynn.

WOOD, JOHN W.

7959 Vernon Ave., Chicago, Ill. D.V.M., St. Joseph Veterinary College, 1918. Vouchers: E. M. Lynn and L. A. Blank.

Second Listing

Bachman, William E., 1547 Superior Ave. Cleveland 14, Ohio.

Burns, A. J., Millhousen, Ind.

Cairy, Forest W., 927 S. Mulberry St., Sious City, Iowa

James, David E., 1076 Youngstown Rd., Warren Ohio.

Miller, Charles S., St. Charles, Iowa. Murphy, Edward A., 4842 Farnam, Omaha 1 Neb.

Newby, Winston C., R. R. 2, Sardis, B. C. Rice, Walter M., 247 Talbot St., St. Thomas Ont.

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Schaefer, Austin L., P. O. Box 99, Sebringville, Ontario, Canada.

1947 Graduate Applicants First Listing

The following are graduates who have re-cently received veterinary degrees and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of junior chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk *) after the name of a school indicates that all of this year's graduates have made application for membership.

Michigan State College

ABBOTT, RUSSELL N., D.V.M.

324 Essex St., Bangor, Maine. Vouchers: W. F. Riley, Jr. and J. P. Hutton. BAKER, ROBERT N., D.V.M.

Perrysburg, Ohio.

Vouchers: R. D. Hatch and F. Thorp, Jr.

BEAMAN, LORBAINE C., D.V.M.

72 Mora St., Dorchester, Mass.

Vouchers: R. A. Runnells and B. J. Killham. BOOTH, NICHOLAS H., D.V.M.

R.F.D., New London, Mo.

Vouchers: W. O. Brinker and F. E. Eads. BURNS, ROBERT F., D.V.M.

443 Worden St., S. E., Grand Rapids, Mich. Vouchers: F. Thorp, Jr. and G. W. Reed.

CALDWELL, RAYMOND E., D.V.M.

301 Holly St., Brainerd, Minn. Vouchers: J. P. Hutton and E. K. Sales,

EARL, FRANCIS L., D.V.M.

Jasper, Mo.

Vouchers: R. D. Hatch and F. Thorp, Jr. FINKBEINER, WAYNE L., D.V.M.

M.S.C. Trailers, H-4, East Lansing, Mich. Vouchers: W. O. Brinker and E. K. Sales.

FINLAY, JOHN W., D.V.M.

315 Albert Ave., East Lansing, Mich. Vouchers: R. G. Schirmer and J. P. Hutton.

FLETCHER, CLIFFORD H., D.V.M.

526 Sunset Lane, East Lansing, Mich. Vouchers: R. D. Hatch and F. Thorp, Jr

GRAFTON, THURMAN S., D.V.M.

820 Prospect St., Lansing, Mich. Vouchers: W. O. Brinker and C. S. Bryan.

HANAWALT, EUGENE M., D.V.M.

2355 Lombard St., San Francisco, Calif. Vouchers: E. K. Sales and W. F. Riley, Jr.

HARTLINE, JEAN M., D.V.M.

1601 N. Walnut St., Dover, Ohio.

Vouchers: E. K. Sales and W. O. Brinker.

HATHAWAY, MORRIS M., D.V.M.

55 Harsen Rd., Lapeer, Mich.

Vouchers: E. K. Sales and C. S. Bryan.

HILL, D. A., D.V.M.

c/o Dr. C. A. Perkins, West DePere, Wis. Vouchers: F. Thorp, Jr. and C. S. Bryan. JACKSON, WILLIAM F., D.V.M.

3612 Lee Rd., Shaker Heights, Ohio.

Vouchers: F. Thorp, Jr. and E. S. Feenstra.

KADLEC, NANCY D., D.V.M.

2948 W. 59th St., Chicago, Ill.

Vouchers: R. A. Runnells and B. J. Killham.

LUNG, HERMAN L., D.V.M. Ligonier, Ind.

Vouchers: J. P. Hutton and E. K. Sales.

LUTZ, CHARLES H., D.V.M.

134 W. Patterson, Flint, Mich.

Vouchers: R. D. Hatch and F. Thorp, Jr.

McEvoy, James P., D.V.M.

521 Maxwell, Royal Oak, Mich.

Vouchers: E. K. Sales and C. S. Bryan.

MANN, JAMES D., D.V.M.

Marion, Ind.

Vouchers: E. K. Sales and R. D. Hatch.

MILLER, JOSEPH M., D.V.M.

451 Evergreen, East Lansing, Mich.

Vouchers: E. K. Sales and R. G. Schirmer.

MOE, DOUGLAS F., D.V.M.

607 Garfield Ave., Valparaiso, Ind.

Vouchers: B. J. Killham and F. Thorp, Jr.

NUTTALL, ROBERT J., D.V.M. 340 N. Jackson St., Waukegan, Ill. Vouchers: J. P. Hutton and E. K. Sales.

O'SHAUGHNESSY, ROBERT P.

14121/2 Vine St., Lansing, Mich.

Vouchers: R. D. Hatch and F. Thorp, Jr.

PAULSON, NORMAN R.

Strum, Wis.

Vouchers: E. K. Sales and R. D. Hatch.

PAULSON, ROBERT F., D.V.M.

4351 Schubert Ave., Chicago, Ill.

Vouchers: E. K. Sales and W. O. Brinker.

PEIGH, HAROLD V., D.V.M.

Hamlet, Ind.

Vouchers: F. Thorp, Jr. and G. W. Reed.

PILCHARD, EDWIN I. JR., D.V.M.

902 S. Lincoln, Urbana, Ill.

Vouchers: E. K. Sales and W. O. Brinker.

RAYMER, GERALDINE W., D.V.M.

14603 Ashton Blvd., Detroit, Mich.

Vouchers: E. K. Sales and R. D. Hatch.

Ross, Gordon C., D.V.M.

Perry, Mich.

Vouchers: E. K. Sales and W. O. Brinker.

SCHMIDT, DONALD A., D.V.M.

Rt. 2, Box 174, Wittenberg, Wis.

Vouchers: F. Thorp, Jr. and G. W. Reed.

SKINNER, CHARLES H. JR., D.V.M.

515 Pearl St., Thorntown, Ind.

Vouchers: R. D. Hatch and B. J. Killham.

SUDA, OTTO H., D.V.M.

719 D St., Fresno, Calif.

Vouchers: E. K. Sales and C. S. Bryan.

WESSON, OSCAR, D.V.M.

410 N. Magnolia, Lansing, Mich.

Vouchers: W. O. Brinker and C. S. Bryan.

WRIGHT, JOHN H., D.V.M.

P. O. Box 37, North Manchester, Ind. Vouchers: E. K. Sales and C. S. Bryan.

Young, SAM H., D.V.M.

P. O. Box 614, East Lansing, Mich.

Vouchers: F. Thorp, Jr. and C. S. Bryan.

Youngs, Joan K., D.V.M. 3409 Aldringham Rd., Toledo, Ohio. Vouchers: F. Thorp, Jr. and G. W. Reed.

Texas A. & M. College

HEATH, CHARLES R., D.V.M.

Winona, Miss.

Vouchers: W. W. Armistead and A. A. Lenert. HENSLER, H. L. JR., D.V.M.

Amboy, Ind.

Vouchers: J. H. Milliff and R. C. Dunn.

JOHNSON, JOHN E., D.V.M.

Sherrod Ave., Covington, Tenn.

Vouchers: R. P. Marsteller and R. C. Dunn.

MELANCON, JAMES L., D.V.M.

418 Evangeline Dr., Lafayette, La.

Vouchers: W. W. Armistead and H. T. Barron.

SINGLETORY, C. T., D.V.M.

Box 595, Lafayette, La.

Vouchers: R. P. Marsteller and W. W. Armistead.

TENNISON, LAFAYETTE B. JR., D.V.M.

624 Melba St., Dallas, Texas.

Vouchers: W. W. Armistead and H. T. Bar-

WILLE, TONY C. JR., D.V.M.

524 E. Mountain St., Seguin, Texas.

Vouchers: R. P. Marsteller and W. W. Armistead.

Second Listing

Texas A & M College

Stoddard, Hannis L., Jr., D.V.M., Box 687, Clarksdale, Miss.

Washington State College*

Clark, Carl H., D.V.M., 2518 Orange St., La Crescenta, Calif.

GOVERNMENT S.

Veterinarians Needed .- The recent outbreak of foot-and-mouth disease in Mexico has made it necessary to employ more veterinarians in the U.S. BAI for adequate safeguards to prevent the spread of the disease into this country. The U. S. Civil Service Commission has announced a veterinarian examination for filling positions at salaries of \$2,644 and \$3,397 a year, in Washington, D. C., and throughout the United States, principally in the midwest sec-

No written test is required, but applicants must have completed a full course of study in veterinary medicine in a college or university of recognized standing. Veterinary students who will complete their courses within six months may apply for the lower salary but may not enter on duty until completion of the required courses. For the \$3,397 positions, applicants must have had one year of professional veterinary work or one year of graduate study in the field in addition to the educational requirement. Information and application forms may be secured at most first and second class

post offices, from Civil Service Regional Offices, or from the U.S. Civil Service Commission, Washington 25, D. C.

Organization of the Washington Office of the Meat Inspection Division. - The following changes have occurred in the Washington office of the Meat Inspection Division. In the office of the chief, A. R. Miller, the assistant chief is C. H. Pals; assistants to the chief are J. T. Johnstone, H. H. Pas, and R. K. Somers.

The section chiefs are: G. H. Shaw, architectural engineering; W. R. Kidwell, inspection operations; R. M. Mehurin, laboratory; E. L. Powers, recording; E. N. Tierney, special projects; J. R. Scott, trade labels. The administrative officer of the under office of the business manager of the Bureau is F. L. Wilde.

S/A. R. MILLER.

Fees for Meat Inspection.-Subchapter A-Meat Inspection Regulations (U. S. Bureau of Animal Industry) has been amended to read as follows:

CHARGES TO BE MADE FOR COST OF INSPECTION

By virtue of the authority vested in me by the provisions of the Department of Agriculture Appropriations Act for 1948 under the heading Bureau of Animal Industry, and the act of July 24, 1919 (7 U.S.C. 394), Title 9, Chapter I. Subchapter A, Code of Federal Regulations, is hereby amended as follows effective immediately:

§30.1 Fees. (a) Persons granted the inspection or furnished meat inspection services on or after July 1, 1947, shall pay the United States therefor in accordance with the require ments contained in this part.

(b) Fees shall be charged against a person granted the inspection or furnished meat inspection services and such fees shall be paid in accordance with the requirements contained in this part.

[SEAL]

N. E. DODD, Acting Secretary of Agriculture.

Veterinary Personnel Changes.-The following changes in the force of veterinarians in the U. S. BAI are reported as of Aug. 8, 1947, by Chief B. T. Simms.

TRANSFERS

Wayne A. Anderson, from Washington, D. C., to

Denver, Colo. Aaron P. Antroinen, from St. Paul, Minn., to Mexico City, Mexico.

Richard E. Baer, from Columbus, Ohio, to Mexico City, Mexico.

Thomas C. Berry, from Montgomery, Ala., to

Mexico City, Mexico. Ralph W. Boone, Springfield, Ill., to Rouses

Point, N. Y. Walter B. Bradley, from Atlanta, Ga., to LAD

sing, Mich. Ben A. Brinkman, from Jacksonville, Fla., to

Denver, Colo. Charles T. Caraway, from Fort Worth, Texas,

to Mexico City, Mexico. Marion L. Cravens, from Chicago, Ill., to Sioux City, Iowa.

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Lloyd A. Frazer, from Mexico City, Mexico, to Des Moines, Iowa.

Troy Hopkins, from Shreveport, La., to Mexico City, Mexico.

James L. Hourrigan, from Albuquerque, N. M.,

to Mexico City, Mexico. Thomas K. Jones, from Springfield, Ill., to Jackson, Miss.

Robert L. Knudson, from Beltsville, Md., to Atlanta, Ga.

Paul R. Lamphear, from Springfield, Ill., to Mexico City, Mexico.

John R. Langridge, from Denver, Colo., to Mexico City, Mexico.

Adolph L. Linn, from Richmond, Va., to Mexico City, Mexico.

David O. Manley, from Topeka, Kan., to Mexico

City, Mexico. Lloyd J. Michael, from Albuquerque, N. M., to Mexico City, Mexico.

Roy J. Milleret, from Des Moines, Iowa, to Mexico City, Mexico.

George S. Phalares, from New York, N. Y., to St. Albans, Vt.

Jordan E. Ramnussen, from Salt Lake City,

Utah, to Mexico City, Mexico. Clifford C. Robenstein, from Denver, Colo., to Mexico City, Mexico.

Aubrey C. Robinson, from Jackson, Miss., to Mexico City, Mexico.

Renato C. Salerno, from St. Albans, Vt., to Gouvernour, N. Y.

Ernest E. Saulmon, from Frankfort, Ky., to Mexico City, Mexico.

Robert S. Sharman, from Atlanta, Ga., to Mexico City, Mexico. Murray H. Sherber, from Albany, N. Y., to

Oklahoma City, Okla. Robert K. Somers, from So. St. Paul, Minn., to

Washington, D. C.

H. Hayward Taylor, from Gouvernour, N. Y., to Mexico City, Mexico.

Arthur L. Tellejohn, from Columbus, Ohio, to Beltsville, Md. corge W. Trubey, from Lansing, Mich., to

George W. Tru Detroit, Mich. Asa L. Walker, from Nashville, Tenn., to Mex-

ico City, Mexico. Harold E. Wilson, from St. Paul, Minn., to Mexico City, Mexico.

Richard A. Cresswell, Lansing, Mich. Joseph S. Hull, Jr., Jefferson City, Mo. Bernard B. Rovner, Philadelphia, Pa. Harold D. Valentine, Wilmington, Del. John Y. Vienstra, San Antonio, Texas.

George E. Maxwell, Kansas City, Kan. Guy W. Rosenberger, Sacramento, Calif.

Jesse D. Lee, Boise, Idaho. Hartwell Robbins, Jackson, Miss.

USDA Buys Mexican Canned Meat for Resale. The Commodity Credit Corporation, acting for the USDA, has contracted with the Juarez Meat Products Co., Juarez, Chihuahua, Mexico, for the purchase of 1,000,000 lb. of canned meat and gravy, to be resold to the International

Refugee Association for the feeding of European refugees. This plan will provide an outlet for cattle in northern Mexico, formerly exported to the United States but now prohibited due to the foot-and-mouth disease present in central and southern Mexico.

AMONG THE STATES AND **PROVINCES**

Alaska

Swine Farming at Fairbanks.—A herd of 350 hogs raised on a farm just below the Artic Circle, 14 miles from Fairbanks, is one of the sights at the foremost end of the Alcan Highway. The owner, Cline S. Koonz, supplies the pork for the local market. But says the Alaska Farmer, the problem is to keep the pork cool; "it gets mighty warm there in summer time."

August Meeting .- Dr. and Mrs. Don R. Goodwin were hosts at the August 27 meeting of the Arkansas Veterinary Medical Association (southern district) held in El Dorado, Dr. Goodwin and Dr. O. W. Nipper were in charge of the program at Dr. Goodwin's hospital.

s/T. D. HENDRICKSON.

S/FRANK HURLBUT, Yellville.

Communism and Nihilism .- A drug store advertised in the county paper:
The party who has our stock vaccinating

syringes are asked to return them as soon as possible.

s/Yellville Drug Store An outbreak of anthrax seemed to forecast the need of a lot of syringes. The ad reminds me of the woman who told her daughter to get the milk-straining cloth off the old man's sore leg and ring it out good before you fetch it. She believed in being clean about the milk. Besides, we have the only nongraduate veterinary society in the country. The members sign themselves D.V.S. A new one about 22 years old has just located near here.

California

Feral Horses of the Range Country.—The so-called wild horses on the ranges of the Rocky Mountain region have become an "eco-nomic headache," asserts the Los Angeles Times. They eat precious forage to no good purpose other than for canned dog and cat food, and export to European countries where horse flesh is not an objectionable entrée. The day has passed when the feral horses of the open range are captured, broken, and sold as animals. The possibility of seeking slaughter quotas to preserve some of the herds from extinction is being considered.

Horses are being slaughtered in the abattoirs of Los Angeles County at the rate of 72,000 a year, according to County Livestock Inspector L. M. Hurt, president-elect of the AVMA, who adds, "the 250,000 dogs of the county have to be fed."—Anon.

Biggest Coyote Catch.-U. S. Fish and Wildlife Service during the year ending June 30, 1947, disposed of 13,701 coyotes in the state in cooperation with county agencies. Including bobcats and other predators, the number totaled 20,395, according to a report by Nelson Elliot, district agent, Division of Predator Control, published in the California Wool Grower.

The "California Farmer."—Says the American Veterinary Journal of February, 1858: "The California Farmer comes to us as regular as clock work except when some superannuated steamer sailing 'around the horn' fails to arrive." The publishers were Warren & Company, Sacramento. Was this a "first?"

Personal.—Dr. Martin D. Baum (CORN '32), Los Angeles, resigned from the city health commission on August 21. He has served as city veterinarian and director of the meat and milk division of the Los Angeles Health Department since 1941. Dr. Baum will serve as a veterinary public health consultant of the U. S. Public Health Service with jurisdiction in the Rocky Mountain area.

Florida

East Coast Society Organized.—On August 30, the Florida East Coast Veterinary Medical Society held its first meeting at Bethesda Park, West Palm Beach. Dr. C. T. Bush, West Palm Beach, was elected president, and Dr. J. N. Thomas, Fort Pierce, secretary-treasurer. Dr. Paul Rainey summarized the rables situation in the county and the state.

s/C. T. Bush, President.

Georgia

School of Veterinary Medicine.—Dr. T. J. Jones, former professor of animal husbandry in the College of Agriculture, University of Georgia, Athens, has been named dean of the school of veterinary medicine to be established at the University. Plans currently approved have set construction costs at approximately \$1.800.000.

Dr. Jones, a native of Wales, came to this country in 1926 and received his B.S. degree from the University of Florida in 1931. His M.S. (in agriculture) and D.V.M. degrees are from the University of Georgia, in 1933 and 1943, respectively. The University of Illinois conferred a Ph.D. on Dean Jones in June.

Plans for a classroom building, with wings housing large and small animals, and a research building are now underway. Two hundred students will be enrolled in the four-year course of professional study. It is hoped that 50 licensed veterinarians will be graduated each year after the first class in 1949.

Illinois

Central Association.—The Central Illinois Veterinary Medical Association met in Springfield on June 26. The program, following a dinner and business meeting, featured Dr. W. B. Holmes, who showed pictures of Mexico and the foot-and-mouth disease situation there. Dr. V. A. Beard, Greenview, and Dr. L. C. Burt, Petersburg, conducted a quiz program on the practice of veterinary medicine. Dr. I. W. Moranville, formerly in practice in Durant. Iowa, and now with Vita-Mineral Products

Co., gave information gathered while visiting veterinarians in the state.

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Radio Program.—The Illinois State Veterinary Medical Association's public relations program was inaugurated by the release of radio script material to all Illinois radio stations. The material has been used already by five stations: WJBC, Bloomington; WEBQ, Harrisburg; WSIV, Pekin; WMBD, WMMJ, and WWXL, Peoria; and WTAX, Springfield.

Graduate Teaching and Research Center.—
The University of Illinois Board of Trustees has authorized \$80,000 to be used for the purchase of a graduate teaching and research center for the College of Veterinary Medicine. The building purchased, formerly a men's rooming house, at 805 W. Pennsylvania Ave., Urbana, will serve as temporary office quarters for staff members and for a part of the research work and graduate teaching. No animals will be kept at this center.

The housing problem for staff members will be temporarily solved by this expansion, since there are 21 bedrooms, a dormitory, and baths, in addition to the first floor living, dining, and reception rooms. The house will be remodeled for student laboratories, classrooms, library room, administrative, staff, and stenographic

offices.

Important Change in Veterinary Service.—
Information to the effect that the last General Assembly has designated the office of Superintendent of Livestock Industry, State Department of Agriculture, must hereafter be filled with an accredited veterinarian of five years' experience, is regarded as one of the most fareaching advancements in the state's veterinary service in the last thirty years—since the administration of Governor Lowden when the office of state (chief) veterinarian was practically emasculated. For the reform, credit is given to Chief Veterinarian C. E. Fidler, the first superintendent of livestock industry under the new law.

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Important Decision on Hog-Cholera Antiserum and Virus.—According to a ruling handed down by the state's attorney general (Drug Topics, Aug. 4), hog-cholera antiserum and virus can be retailed lawfully only by licensed pharmacists, physicians, dentists, and veterinarians. The annual license fee specified for pharmacists in this regard has been reduced from \$15 to \$1, and the bond they have to post was lowered to \$1,000 from \$5,000.

In the opinion of Secretary Dal Bruner of the state pharmaceutical association and Secretary J. F. Rabe of the state pharmacy board, the ruling prohibits farm bureau sales of these products and puts their retailing squarely up

to the druggists.

Death of Dean Curtiss. — Dean Emeritus Charles F. Curtiss, 83, died at Ames on July 30. He was dean of agriculture and director of the Iowa Agricultural Experiment Station for thirty-three years and was one of the nation's most famous educators and judges in the live-

stock field. As a judge of horses, beef cattle, and swine, Dean Curtiss was a prominent figure for many years among the large livestock expositions and fairs throughout North America. He was also a breeder of purebred swine and Percheron horses.

Kansas

District Meeting.—Dr. and Mrs. Frank Flipse were the hosts for the district meeting of the Kansas Veterinary Medical Association held at Colby on June 22. After a dinner for over 30 veterinarians and their wives, Dr. L. M. Roderick of Kansas State College spoke on "Clay Pigeon Poisoning in Young Pigs." Dr. Roderick also discussed symbiotic infections of Actinomyces bovis, and Brucella bovis in horses with poll evil and fistulous withers. Dr. Flipse reported on the use of diethylstilbestrol in ewes.

Veterinary Public Health Division.— The State Board of Health has created a veterinary public health division by a resolution passed on June 26, 1947. The division will consist of a chief veterinarian and such assistants as are necessary, and the chief will be responsible to the State Board of Health. A committee consisting of Drs. I. W. Rowles, chairman, D. O. Wendt, M. L. Dietrich, Kent R. Dudley, and Dean R. R. Dykstra submitted job classifications for veterinarians to be adopted by the Kansas Joint Merit System, and the duties of the chief were outlined.

s/C. W. Bower, Secretary.

Personal.—Dr. J. A. Bogue, Wichita, was elected president of the Wichita Board of Education at the first meeting of its 1947-1948 year, having served on the executive body since 1945. Dr. Bogue conducts a successful small animal practice in Wichita and has served the community in civic affairs for many years.

Kentucky

Officers.—The officers of the Kentucky State Veterinary Medical Association for the coming year are: Dr. Harold Holmes, Lexington, president; Drs. Lewis G. Northington, Mayfield, J. L. Karnes, New Castle, and Jack K. Bushnell, Paris, first, second, and third vice-presidents; and Dr. T. P. Stritmatter, Newport, secretary-treasurer.

The Ladies Auxiliary elected Mrs. F. E. Hull, Lexington, as president; Mrs. J. T. Stearns, LaGrange, vice-president; and Mrs. Houston Calldemier, Louisville, secretary-treasurer.

S/T. J. STEARNS.

Louisiana

Equine Encephalomyelitis Widespread.—A serious outbreak of equine encephalomyelitis has been reported from southern Louisiana. According to a statement issued by the veteriary science department of Louisiana State University in mid-August, the death toll is estimated at 75 per cent of all affected animals. At the time of the report, at least 400 horses and mules were known to have died of the disease and it appeared that the outbreak, involving both eastern and western types, was spreading northward in the state.

Southern Veterinary Medical Association to Meet in November.—The Hotel Roosevelt in New Orleans will be the meeting place for



-Bureau of New Orleans News.

The state-owned Port of New Orleans has the finest facilities in this country with a replacement value of more than \$50 million. With a harbor frontage of 51.4 miles on the Mississippi and 11 miles on the Inner Harbor Navigation or Industrial Canal, and constructed at a cost of \$20 million, it connects the Mississippi with Lake Pontchartrain.

the Southern Veterinary Medical Association from November 17 to 19. A comprehensive program has been arranged for the meeting, but visitors will have ample time to see the historic city and its places of interest.

s/A. A. Husman, Secretary.



-Bureau of New Orleans News.

A typical example of the lece iron balconies found in the New Orleans French Quarter. These elaborate patterns date back to the days when the Creoles attempted to outdo their neighbors with unusual and unique detail in decoration.

Manitoba

Summer Meeting.—Twenty-five members of the Veterinary Association of Manitoba attended a summer meeting at the University on Manitoba, Winnipeg, on August 21. Professor Grant McEwen, dean of the Faculty of Agriculture, welcomed the group, and the scientific program continued as follows:

Dr. A. Savage, Winnipeg: "Placentation in

the Bovine Uterus" (demonstration), and "Treatment of Cervicitis in the Cow" (demonstration)

"Battling Brucellosis" (colored motion picture).

"The Singer Surgical Stitching Instrument" (colored motion picture)

Dr. E. N. Anderson, Norwood, and Dr. Anne Laidlaw, Winnipeg: "The Flynn Technique in Spaying Bitches" (demonstration). Dr. J. M. Isa, Veterinary Laboratory, Univer-

sity of Manitoba: "Poultry Postmortems."

The Association, in its business session, was placed on record as favoring the branding of all cattle in the province of Manitoba known to be infected with brucellosis.

s/J. M. Isa, Secretary.

Michigan

Officers.—Officers elected at the annual meeting of the Michigan State Veterinary Medical Association in Lansing, June 24-25, 1947, are: Dr. M. J. Geiger, Croswell, president; Dr. E. E. Hamann, Greenville, Dr. P. V. Howard, Grand Rapids, and Dr. F. D. Egan, Farmington, first, second, and third vice-presidents, respectively. 8/B. J. KILLHAM, Secretary.

Missouri

Greater St. Louis Association .- The Purina Research Farm at Gray Summit invited the Greater St. Louis Veterinary Medical Association to hold a special meeting there on Oct. 10, 1947. The meeting will start at 2:30 p.m. and the program will end at 8 p.m. Dr. C. S. Bryan, dean of the School of Veterinary Medicine, Michigan State College, will discuss bovine mastitis and other large animal disease problems, illustrating his talk with slides. The trip over the farm will include visits to various units: dairy, hog farrowing and fattening, beef cattle, goats, fur-bearing animals, etc. As guests at the farm, visitors will have the opportunity to enjoy a family style supper. s/W. C. Schofield, Secretary.

Fly-Control Program.-The results of a new formula for spraying cattle have gained numerous editorial commendations in recent months for Mr. Ray Cuff, southwestern manager of the National Livestock Loss Prevention Board. The killing power of the spray (16 lb. of 50% wettable benzene hexachloride and 8 lb. of 50% wettable DDT to 100 gal. of water) for horseflies has not been equalled. Eight days following a test-spraying, there were not more than a dozen flies in the entire herd.

New Laboratories for Ralston-Purina Company.—All research laboratory facilities of the Ralston Purina Company in St. Louis have been consolidated into one new four-story building with 30,000 sq. ft. of floor space. It will house 35 individual laboratory units for research in human foods, animal feeds, sanitation products, agricultural chemicals, and farm supplies; cereal laboratories; and complete biological units with capacities for 12,000 chicks and poults, 50 dogs, and 500 rats. New developments from these laboratories are tested under practical farm conditions at the company's 738-acre farm at Gray Summit.

Nebraska

Flying Farmers.—"The greatest thing to hit the farm since Cyrus McCormick's reaper . and like the Franklin stove, is here to stay," is the view taken by the 275 members of the Nebraska Flying Farmers' Association. The planes are used for inspecting stock, dusting insecticides, running errands, and killing coyotes. The Flying Farmers' Association (FFA) is a national society with units in 30 states. At a meeting held in Champaign, Ill., in August, 2,000 farmers and ranchers arrived in 675 planes. The cost of the planes ranges from \$2,500 to \$7,000.

New Jersey

Newly Formed Association.—The first meeting of the South Jersey Veterinary Medical Association was held on July 15, 1947, at the Walt Whitman Hotel in Camden. The Association will meet at 9:30 p.m. every third Tuesday of each month.

The officers are Dr. Elwood Fooder, Haddonfield, president; Dr. S. A. Fittipaldi, Camden, vice-president; Dr. Paul De Cinque, Collingswood, treasurer; and Dr. James M. Johnston, Pitman, secretary.

s/James M. Johnston, Secretary.

Pullorum Disease Controlled.—The lowest incidence of pullorum disease in New Jersey flocks since the National Poultry Improvement Plan was inaugurated in 1923 was recorded for the fiscal year ended June 30, 1947. Reactors to the blood test numbered less than 0.5 per cent for the year.

Ohio

New Recognition for Textbook.—"Anatomy of the Domestic Animal," a textbook originally published in 1910, with the latest revision in 1938, has been translated into Spanish, giving further international recognition to the work of its authors, Professor James D. Grossman and the late Professor Septimus Sisson, both of the College of Veterinary Medicine, The Ohio State University. Dr. Grossman (OSU '14), with the exception of five years on the teaching staff of Iowa State College, has taught on the Ohio State faculty for twenty-eight years. Professor Sisson was a member of the faculty prior to his death several years ago.

Pennsylvania

Retirement of Veterinary Educators.-Three members of the veterinary school faculty, University of Pennsylvania, were given a testimonial luncheon by the faculty on June 30, 1947, as they retired from teaching following many years of valuable and faithful service.
They are: Dr. Louis A. Klein, professor of veterinary hygiene and pharmacology; Dr. Harry C. Campbell, professor of veterinary bacteriology; and Dr. William I. Lee professor teriology; and Dr. William J. Lee, professor of veterinary surgery.

Dr. Klein, a leader in veterinary education for many years, had reached the retirement age several years ago but continued to serve during critical war years when personnel was scarce. Dr. Campbell retired on the basis of age after a long period of service at considerable personal sacrifice. Dr. Lee was retired because of a handicapping eye condition.

s/R. A. Kelsen, Dean.

Quebec

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Dr. Labelle Directs New Veterinary School.—On July 4, 1947, Dr. Gustave Labelle was appointed director of the provincial School of Veterinary Medicine to be located at St.-Hyacinthe. From a family of three generations of veterinarians, Dr. Labelle was graduated in veterinary medicine in 1918 from the University of Laval in Montreal. He did further work at Guelph, Cornell, Alfort, and Cureghem. He was head of the department of materia medica and pharmacology at the School of Veterinary Medicine at Oka from 1928 to 1942, when he became the school's director of studies and exterior relations. He has published two books and many articles in his field.

Dr. Labelle is a member of the Commission of Studies at the University of Montreal, a member on the board of the College of Veterinary Surgeons of the Province of Quebec, and has been mayor of the town of St.-Eustache

since 1938.

S/JOSEPH DUFRESNE, Resident Secretary.

Texas

The Panhandle Meeting.—The Panhandle Veterinary Association, organized in 1941 and which holds semi-annual meetings between Amarillo and Lubbock, met at Amarillo May 14. Attendance was 33. John Redmond (IND 13), now engaged in the study of wheat poisoning, gave a film-illustrated talk on the subject, and Ab Quin of the Jensen-Salsbery Laboratories of Kansas City spoke on practice problems. "If you haven't such a group meeting in your area," says the Texas Veterinary Bulletin, "you are missing a real bet."



New Research Laboratory.—A state-federal institution for the study of animal diseases is about to be established at Marfa. The name will be the West Texas Animal Disease Research Laboratory and it will be operated as a part of the Division of Veterinary Science, Texas Agricultural Experiment Station. Dr. H. Schmidt is chief of the Veterinary Division. Research will be in charge of Dr. Doyle W. Dodd, School of Veterinary Medicine, A. & M. College.

Wisconsin

Southeastern Association. — Dr. Zinteck, chief of the division of communicable disease, State Board of Health, Madison, was the guest speaker at the August 28 meeting of the Southeastern Wisconsin Veterinary Association held at the Park Hotel in Madison.

s/J. O. McCoy, Secretary.

Changes in Brucellosis Control.—The new state legislation authorizing free brucellosis vaccination on an area plan provides that such work may be started by the filling of a peti-tion signed by 75 per cent of the cattle owners in the area (which can be smaller than a county but not less than a town). The two plans offered free to owners are (a) calfhood vaccination and blood testing or (b) calfhood vaccination only. A brucellosis-free or accredited status will be given only for plan (a). Disclosure of infection on the first test will probably require that the owner sign an agreement to eliminate reactors and limit herd additions to animals of stated qualifications. Retaining reactors will transfer the herd to plan (b). where only animals to be vaccinated will be tested. As reactors are replaced by official vaccinates, owners will be encouraged to transfer to plan (a).

Methods of carrying out the plan, requiring three or four annual visits to each farm, have not been fully formulated. When the demand for this service is known, it may become necessary to commission locally resident veteri-

narians for the work.

s/Milton H. Button, Director, State Department of Agriculture.

Institutional Veterinarian Wanted.—The Bureau of Personnel, Madison 2, has an opening for a veterinarian to perform services on institutional farms in the state. The requirements are a veterinary degree from a recognized college of veterinary medicine and possession of, or eligibility for, a valid license to practise in the state of Wisconsin; desirable qualifications would be four years' experience in general practice, including considerable practice in the treatment of livestock.

Human Brucellosis.—There were 384 cases of brucellosis reported in the state last year but, said a WLS commentator on September 8, health officials declare that ten times that number may be more nearly correct since many cases are not diagnosed.

Hard Times in 1858.—Our first agricultural paper was the monthly Wisconsin Farmer and North-Western Cultivator, edited by D. W.

Powers and Professor J. W. Hoyt. Drs. G. H. Dadd, C. H. Woods, Robert Woods, and A. S. Copeland, editors of the *American Veterinary Journal* (Feb., 1858) of Boston, speak of this paper as having just started "gay as a lark without symptoms of the panic."

FOREIGN

Argentina

Outbreak of Bubonic Plague.—Five cases of bubonic plague in suburban Buenos Aires were hospitalized in December; 4 of the 5 patients were grave septicemia cases. All of the patients, after failing to respond to antiserum, recovered from intramuscular injections of streptomyclin in doses of 100 to 125 mg. every eight hours.—Abstr. J.Am.M.A., 134, (Aug. 30, 1947): 1574.

Denmark

Congress for Microbiology. — Copenhagen was host to the Fourth International Congress for Microbiology during the week ended July 26, 1947. The scientific business of the convention was divided into nine sections that convened simultaneously in different rooms of the Danish Parliament House, and the general sessions were held in a large theater. Attendance was over 1,000, with Scandinavian, British, and French members predominating, and with good representation of the United States. According to a British reporter (Brit. Med. J., Aug. 2, 1947), notable absentees were the Germans and Japanese, who were not invited, and the Russians, who were invited but did not come.

Among the many outstanding speakers and topics were Bawden on viruses, Dubos and Hinshaw on tuberculosis, Huddleson on brucellosis, and Waksman on antibiotics.

Bovine Tuberculosis Almost Eradicated.—
The modified incidence of bovine tuberculosis in the United States, which was brought about by a vigorous "drive" of twenty-three years, is being approached in Denmark, according to a published report by Chief Veterinary Inspector F. Woldike Neilsen. As of 1946, the over-all herd incidence had been reduced from 73.5 per cent to 6.1 percent. In 1937, based upon about one-half of the country's cattle, but 26.5 per cent were nonreacting herds. In 1946, 93.9 per cent of all of the herds were free from tuberculosis. Writes the author (Vet. J., July, 1947): "It is evident that within a few years the last remnant of bovine tuberculosis will have been eradicated." In 1936, the cost was nearly 6,000,000 krone, and 1946 only about 350,000. [1 krone=\$0.268].

England

Foot-and-Mouth Disease. — The Veterinary Record reports that 12,744 animals were slaughtered because of foot-and-mouth disease in the United Kingdom during the year ended June 19, 1947, for which indemnity payments totalled £334,381, or over \$1,300,000.

Poultry Embargo.—To prevent the introduction of contagious poultry diseases, the government issued an order, effective Aug. 15, 1947, that permits importations of poultry, including day-old chicks, and hatching eggs only from the following places: Northern Ireland, Eire, Channel Islands, Isle of Man, Australia, Canada, New Zealand, Union of South Africa, Norway, and Sweden. [Shipments from the United States are thereby prohibited.]

Unfilled Veterinary Positions.—Of 140 positions for veterinarians, 75 are filled by temporary officers. The remainder are vacant for want of personnel willing to accept them. The salary for men of 25 is £520 rising to a maximum of £960. The pay is slightly more for veterinary inspectors stationed in London and certain other cities. Compared with other positions of a scientific and technical character in the civil service, the salaries are reasonable in the opinion of the Minister of Agriculture and Fisheries.

New Zealand

An Experiment in Veterinary Service.-Public Act 26 provides for the establishment of veterinary service for farmers through the in-termediary of an incorporated council of ten members composed of three government officials, two of the Dominion Federation of Farmers' Veterinary Service, Inc., two of the Dairy Board, one of the Meat-producers' Board, one of the Wool Board, and one of the New Zealand Veterinary Association, who are charged with the administration of the Act, under its provisions. The over-all purpose is to "promote and encourage by way of subsidy or otherwise. financial assistance to farmers' veterinary clubs or other like bodies under such terms and conditions as it sees fit." Among the Council's functions is the promotion and training of a sufficient number of persons in veterinary science to serve its purpose, furnish subsidies to veterinary schools within and outside of New Zealand, and grant funds to veterinary sur-geons who may desire to take graduate work in veterinary science. A cardinal objective is the coordination of private and government veterinary service.

The collection of a fund of £500,000 (\$2,000.000) from the dairy, wool, and meat industries to be regulated by the Minister of Finance is written into the parliamentary act. Translated into understandable terms, this fund does not pay veterinarians for the service they render under the voluntary contracts authorized by the Council. The Act, in effect, provides for state veterinary medicine on a nation-wide scale. Letters received from New Zealand practitioners indicate that the Act is not universally sanctioned by the veterinary profession.

COMING MEETINGS

Purdue University. Annual Short Course for Veterinarians, Purdue University, Lafayette, Ind., Oct. 1-3, 1947. C. R. Donham, Dept. of Veterinary Science, Purdue University, head.

- University of Illinois. Annual Conference for Veterinarians. College of Veterinary Medicine, University of Illinois, Urbana, Oct. 6-9, 1947. Robert Graham, College of Veterinary Medicine, University of Illinois, dean.
- American Public Health Association. Atlantic City, N. J., Oct. 6-10, 1947. Reginald M. Atwater, 1790 Broadway, New York, N. Y., executive secretary.
- Colorado Veterinary Medical Association. Cosmopolitan Hotel, Denver, Colo., Oct. 9-10, 1947. C. L. Davis, 517 Custom House, Denver 2. Colo., secretary.
- West Virginia Veterinary Medical Association. Kanawha Hotel, Charleston, W. Va., Oct. 13-14, 1947. R. M. Johnson, 710 Red Oak St., Charleston 2, W. Va., secretary-treasurer.
- Eastern Iowa Veterinary Association, Inc. Hotel Montrose, Cedar Rapids, Iowa, Oct. 14-15, 1947. Laurence P. Scott, P. O. Box 325, Waterloo, Iowa, secretary.
- Pennsylvania State Veterinary Medical Association. Penn Harris Hotel, Harrisburg, Pa., Oct. 15-17, 1947. Raymond C. Snyder, N. W. Cor. Walnut St. and Copley Rd., Upper Darby, Pa., secretary.
- International Association of Milk Sanitarians. Milwaukee, Wis., Oct. 16-18, 1947. J. H. Shrader, 23 E. Elm Ave., Wollaston, Mass., secretary-treasurer.
- North Central Iowa Veterinary Medical Association. Wahkonsa Hotel, Fort Dodge, Iowa, Oct. 23, 1947. B. J. Gray, Fort Dodge Laboratories, Fort Dodge, Iowa, secretary-treasurer.
- Florida State Veterinary Medical Association. Bennett Hotel, St. Augustine, Fla., Oct. 27-28, 1947. V. L. Bruns, Box 623, Williston, Fla., secretary-treasurer.
- University of Minnesota. Annual Short Course for Veterinarians. University Farm, St. Paul 8, Minn., Oct. 29-30, 1947. W. L. Boyd, Division of Veterinary Medicine, University Farm, chief.
- University of Missouri. Annual Short Course for Veterinarians. University of Missouri, Columbia, Nov. 3-5, 1947. A. J. Durant, Dept. of Veterinary Science, University of Missouri, chairman.
- Midwest Small Animal Association. Hotel Burlington, Iowa, Nov. 13, 1947. Wayne H. Riser, 1817 Church St., Evanston, Ill., secretary.
- Southern Veterinary Medical Association. Roosevelt Hotel, New Orleans, La., Nov. 17-19, 1947. A. A. Husman, 320 Agricultural Bldg., Raleigh, N. Car., secretary.
- Interstate Veterinary Medical Association. Martin Hotel, Sioux City, Iowa, Nov. 20-21, 1947. H. C. Smith, Box 838, Sioux City 5, Iowa, secretary.
- American Society of Animal Production. Hotel Sherman, Chicago, Ill., Nov. 28-29, 1947. W. G. Kammlade, 110 Stock Pavilion, University of Illinois, Urbana, secretary.

- Ohio State Veterinary Medical Association. Deshler-Wallick Hotel, Columbus, Ohio, Jan. 7-9, 1948. F. J. Kingma, College of Veterinary Medicine, Ohio State University, Columbus, Ohio, secretary.
- Intermountain Veterinary Medical Association. Salt Lake City, Utah, Jan. 12-14, 1948. M. L. Miner, Dept. of Veterinary Science, Utah State Agricultural College, Logan, secretary.
- North Carolina State College. Annual Conference for Veterinarians. North Carolina State College, Raleigh, Jan. 27-30, 1948. C. D. Grinnells, State College Station, Raleigh, N. Car., chairman.
- Illinois State Veterinary Medical Association. Pere Marquette Hotel, Peoria, Ill., Jan. 28-30, 1948. A. G. Misener, 6448 N. Clark St., Chicago 26, Ill., secretary-treasurer.
- Kansas Veterinary Medical Association. Topeka, Kan., Feb. 5-6, 1948. C. W. Bower, 3119 Stafford St., Topeka, Kan., secretary.
- Midwest Feed Manufacturers' Association. Kansas City, Mo., Feb. 19-20, 1948. J. D. Dean, Midwest Feed Manufacturers' Association, 20 W. 9th St. Bldg., Kansas City 6, Mo.
- American Veterinary Medical Association, Palace Hotel, San Francisco, Calif., Aug. 16-19, 1948. J. G. Hardenbergh, American Veterinary Medical Association, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.
- Small Animal Veterinary Medical Association of Southern California. Held the second Tuesday of each month. Norman L. McBride, Jr., 2204 Foothill Extension, Pasadena 8, Calif., secretary.
- Chicago Veterinary Medical Association. Palmer House, Chicago, Ill., the second Tuesday of each month. Robert C. Glover, 1021 Davis St., Evanston, Ill., secretary.
- Keystone Veterinary Medical Association. School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa., the fourth Wednesday of each month. Raymond C. Snyder, N. W. Cor. Walnut St. and Copley Rd., Upper Darby, Pa., secretary.
- Massachusetts Veterinary Association. Hotel Statler, Boston, Mass., the fourth Wednesday of each month. C. L. Blakely, Angell Memorial Animal Hospital, 180 Longwood Ave., Boston, Mass., secretary-treasurer.
- New York City Veterinary Medical Association. Hotel Pennsylvania, New York, N. Y., the first Wednesday of each month. C. B. Schroeder, Lederle Laboratories, Inc., Pearl River, N. Y., secretary.
- Saint Louis District Meetings. Roosevelt Hotel, St. Louis, Mo., the first Friday of February, April, June and November, W. C. Schofield, Dept. of Animal Pathology, Ralston-Purina Co., St. Louis 2, Mo., secretary.
- Houston Veterinary Medical Association, Houston, Tex., the first Thursday of each month. Edward Lepon, Houston, Tex., secretary-treasurer.

BIRTHS

To Dr. (OSU '43) and Mrs. Robert W. Stout, 398 Pike St., Vevay, Ind., a daughter, Mary Kathleen, July 24, 1947.

To Dr. (MSC '38) and Mrs. Luke R. Sinclair, 301 E. 5th St., Superior, Wis., a son, Douglas Evans, Aug. 30, 1947.

DEATHS

Fred R. Allerton (KSC '25), 64, Richmond, Calif., died Dec. 22, 1946, from a ruptured duodenal ulcer. Following a few years' practice in Brown County, Kan., he joined the U. S. BAI as a field veterinarian. In California, where he was retired, he established a practice and built a small animal hospital in Richmond.

★Robert O. Biltz (UP '22), 48, Langhorne, Pa., died Aug. 29, 1947, from a duodenal ulcer. After seven years as head of the Poultry Division, Pennsylvania Bureau of Animal Diseases, Harrisburg, Dr. Biltz was employed in the veterinary research department of E. R. Squibb, Inc., of New York. He was admitted to the AVMA in 1922, a member of the U. S. Livestock Sanitary Association, Alpha Psi, and Phi Zeta.

★Samuel Burrows (UP '02), 74, Cleveland, Ohio, died on July 7, 1947. He had practised in Cleveland more than forty years, was a charter member of the Cleveland Milk Commission, and had been editor of the Ohio and Michigan Farmer since 1925. He joined the AVMA in 1902.

O. H. Core (CVC '13), Lansing, Mich., died at Traverse City on July 2, 1947. As a staff member of the Michigan State Department of Agriculture, he had been in charge of animal disease control work at institutional farms for many years.

*Herbert Elzinga (GR RAP '06), 67, Marne, Mich., died on July 13, 1947. Dr. Elzinga was a general practitioner. He was admitted to the AVMA in 1926.

Francis Falls (UP '06), Philadelphia, Pa., died on Aug. 5, 1947. Dr. Falls conducted a small animal practice in West Philadelphia.

James G. Harvey (ONT '10), Detroit, Mich., died Aug. 23, 1947, from a serious kidney disease. After his graduation from Ontario Veterinary College, he practised in Guelph and was the first instructor in small animal diseases after the college moved to Guelph. He had been a resident of Detroit for the past twenty years.

William D. Hiscock (GA '30), 40, Orlando, Fla., died on July 20, 1947. He died at his birthplace, Quitman, Ga. He had been associated with Dr. J. L. Ruble of Orlando in practice for the past sixteen years.

*Indicates member of the AVMA.

*Wm. H. Ivens, Sr. (UP '10), 63, Ardmore, Pa., died Aug. 11, 1947. Born in Maryland in 1884, he had conducted a general practice in Philadelphia from 1912 to about 1931 and for the past sixteen years had also maintained an establishment in Ardmore, with his son, Wm. H., Jr. Dr. Ivens was well known as a veterinarian, horseman, and marksman, having been vice-chairman of the Saddle Horse Association of Philadelphia and vice-president of the Roxborough Gun Club. He had been prominent in veterinary circles in his city and state and also in the AVMA, having served as a member of the Executive Board in 1942-43 and as a member of the Committee on Legislation from 1939 to 1944. He joined the AVMA in 1916.

*Maj. Harry R. Leighton (UP '21), 46, U. S. Army, has been reported killed in the Philippine Islands in 1944 while a prisoner of the Japanese. He was taken a prisoner of war in December, 1941. He had been a member of the AVMA since 1923.

*John L. McEwan (CVC '12), 68, Frankfort, Ill., died May 8, 1947. He had practised in Frankfort for over thirty-seven years. Dr. McEwan was admitted to the AVMA in 1919.

F. C. Meckstroth (CVC '08), 63, Coldwater, Ohio, died July 9, 1947, following an automobile accident in which a freight train struck his car. He had practised in Mercer County and adjoining territory for almost forty years.

★James T. Molison (ONT '05), 74, Mount Gilead, Ohio, died on Aug. 10, 1947. A native of Scotland, Dr. Molison was graduated from Ontario Veterinary College in 1905. He joined the AVMA in 1920.

*Harry E. Mulford (CIN '11), 58, Osgood, Ind., died May 16, 1947. He had been a member of the AVMA since 1924.

*Royce R. Powell (OSU '09), 60, Cleveland, Ohio, died on May 29, 1947. Dr. Powell was a general practitioner. He was admitted to the AVMA in 1926.

*A. E. Schattenburg (KSC '19), 63, Riley, Kan., died on May 19, 1947, after a brief illness. Dr. Schattenburg joined the AVMA in 1929.

*Raymond M. Shreve (CVC '10), 61, Panora, Iowa, died on July 21, 1947. Dr. Shreve was with the U. S. BAI. He entered the AVMA in 1915.

*Alven O. Tudor (COLO '20), 52, Shelbyville, Ky., died June 11, 1947. He had served in the U. S. BAI. Dr. Tudor was admitted to the AVMA in 1937.

★Guy F. Young (KCVC '14), 59, Marshall, Minn., died at Aransas Pass, Texas, on March 30, 1947, from coronary occlusion. A Nebraska native, he engaged in practice at Beaver City until his acceptance as second lieutenant, V.C., in World War I. In 1918, he became veterinarian for the Minnesota Livestock Sanitary Board. From 1920 to 1946, he engaged in practice at Marshall, Minn., from which he had to retire due to poor health. He joined the AVMA in 1927.

Proceedings, Eighty-Fourth Annual Meeting American Veterinary Medical Association

Cincinnati — August 18-21, 1947

Business Sessions

First Session, House of Representatives August 18, 1947

The first session of the House of Representatives of the American Veterinary Medical Association, held in connection with the Eightyfourth Annual Meeting at the Netherland Plaza Hotel, Cincinnati, Ohio, August 18-21, 1947, convened at 9:50 a.m., President B. T. Simms, pre-

PRESIDENT SIMMS: The meeting will come to order. I would like to ask at the beginning that we expedite the business as much as pos-We have a great deal of material to cover and we do not want to cut off anybody if he has some statement or explanation to make, but we must operate as rapidly and expeditiously as possible.

In this connection, I want to say the meetings following this one will open promptly, or at least as near on time as we can possibly get them. We are almost an hour late getting get them. started this morning.

We will ask the Secretary to call the roll.

. . . Executive Secretary Hardenbergh called

the roll, and delegates or	alternates respond
State	Delegate
Alabama	I. S. McAdory
Arizona	John Micuda
Arkansas	Hubert Shull
California	J. M. Arburua
Connecticut	I. R. Vail
Dist. of Columbia	C. A. Manthei S. V. Ramsey
Florida	S. V. Ramsey
Georgia	W. L. Sipple
Illinois	L. R. Davenport
Indiana	H. D. Carter
Iowa	P. O. Dorweiler
Kansas	Joe Knappenberge
Kentucky	A. S. Barnes
Louisiana	W. T. Oglesby
Maine	S. W. Stiles
Massachusetts	B. S. Killian
Michigan	M. J. Geiger
Minnesota	J. N. Campbell
Mississippi	R. H. Stewart
Missouri	S. W. Haigler
Nebraska	L. I. Hines
Nevada	Warren B. Earl
New Jersey	R. A. Hendershott
New York	F. F. Fehr
North Carolina	A. A. Husman
North Dakota	J. H. Winslow
Ohio	E. J. Starbuck
Oklahoma	C. H. Fauks
Oregon	John O. Schnautz
Pennsylvania	R. C. Snyder
South Carolina	B. C. McLean
Tennessee	D. Coughlin
Texas	E. A. Grist
Utah	Hugh Hurst

State	Delegate
Virginia	I. D. Wilson
West Virginia	T. C. Green
Wisconsin	C. R. Curtis
Wyoming	A. M. Lee
NAFV	A. J. Defosset
Ontario	E. F. Johnston
Puerto Rico	A. Lopez-Pacheco

PRESIDENT SIMMS: Next we shall have the presentation of the minutes of the 1946 Session.

Presentation of Minutes

EXECUTIVE SECRETARY HARDENBERGH: Mr. President and Gentlemen: Herewith is a copy of the official transcript of the House of Representatives meeting at the 1946 Session and as published in the October, 1946, JOURNAL of the American Veterinary Medical Associa-

DR. A. A. HUSMAN (N. Car.): I move they be accepted by title.
DR. I. S. McADORY (Ala.): Second it.
PRESIDENT SIMMS: Moved and seconded that the minutes be accepted by title. Any discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have

it. It is so ordered.

The next is the report of the Executive Board by Chairman Hastings.

Report of Executive Board

DR. C. C. HASTINGS: Since the last meeting House of Representatives, there been three meetings of the Executive Board. One was held in Boston following the meeting a year ago, one in Chicago the first of December, 1946, and they met in Cincinnati yesterday.

1948 meeting we will go to San For the Francisco. The dates are August 16 to 15, and the headquarters hotel is the Palace.

The Executive Board took this action yesterday relative to payment of the expenses of delegates: It was voted that, in the future, each of the affiliated associations will be entitled to an amount equivalent to one-half of the round trip railroad fare and pullman for one delegate in attendance at meetings of the House of Representatives. This is submitted as information. That was adopted as a policy of the Executive Board. It does not require an amendment to the Constitution or By-Laws.

APPOINTMENTS TO THE RESEARCH COUNCIL

As you know, the Research Council is composed of fifteen men, and the terms of five expire each year. The following men were appointed to the Council. These appointments

are made by the Board of Governors and approved by the Executive Board:

Bacteriology—L. C. Ferguson, Ohio. Biochemistry and Nutrition—George H.

Hart, California. Large Animal Medicine—John F. Bullard,

Indiana. Pathology-Lee M. Roderick, Kansas. Physiology and Pharmacology—H. H. Dukes, New York.

Of the five, there are three new appointments and two that are reappointments.

MEMBERSHIP MATTERS

The application of Dr. Jules Silver, which ad been filed with the executive secretary, had had been published in the JOURNAL. There was an objection filed to his becoming a mem-That objection was not thought to be valid by the Executive Board, and it was voted to accept Dr. Silver as a member of the AVMA.

It was voted to accept the resignation of 34 members who had resigned during the year. It was voted that the names of 119 delinquents be dropped from the membership roll. A man is dropped from the membership roll after he is delinquent a period of three years and has been properly notified.

HONORARY MEMBERSHIP PROPOSALS

The following persons were nominated for honorary membership: Sir Daniel Cabot, Great Britain; Dr. Robert F. Griggs, Washington, D. C.; Dr. Leland David Bushnell, Kansas.

Sir Daniel Cabot is Chief Minister of Agri-culture, Great Britain. Dr. Robert F. Griggs formerly was chairman of the Division of Bi-ology and Agriculture of the National Research Council. Dr. Leland David Bushnell is professor of bacteriology at Kansas State College.

It was voted to recommend to the House of Representatives that honorary membership be given to Messrs. Daniel Cabot and Robert Griggs.

It was voted that the action be deferred until the next annual meeting on the nomination of Dr. Bushnell. It is the policy of the Association not to elect more than one or two honorary members in each year.

VOTE OF CONFIDENCE

The Executive Board voted a vote of confidence to the Council on Education and support for the work that had been done during the last year.

PUBLICITY PROGRAM FOR 1947-48

It was voted that the publicity program as presented be accepted with the following changes, and it is substantially the same as it has been for the last year:

That the preparation and processing weekly scripts for state association ra radio programs be discontinued.

That the coverage of Farm Radio Briefs be There was considerable discussion doubled. about that, but that was the action taken by the Executive Board at their meeting yesterday.

That concludes the items of information. I think of nothing else.

PRESIDENT SIMMS: You have heard the report. What is your pleasure? Shall we act on the report as a whole or on those recommendations of membership item by item?

DR. A. A. HUSMAN (N. Car.): I move we

accept them as a whole.

PRESIDENT SIMMS: The secretary calls attention to the fact that the honorary members must be acted upon at the final session. They

are listed today but acted upon at the final session.

DR. HUSMAN: I move it be accepted with exception of the action on the honorary mem-

DR. R. A. HENDERSHOTT (N. J.): Second it. DR. D. COUGHLIN (Tenn.): Does that recommendation have to be approved by the House of Representatives, allowing travel expenses for the House of Representatives members? PRESIDENT SIMMS: No, that is Board ac-

tion

DR. COUGHLIN: Does the Executive Board have the last say on that?

DR. HASTINGS: That is action of the Ex-

ecutive Board.

DR. HUSMAN: That is to become effective when, this session or the next?

PRESIDENT SIMMS: Next. Any further discussion?

The question was called for.

PRESIDENT SIMMS: The question is called for, those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The report accepted.

The next item is proposed amendments to Constitution, Administrative By-Laws, and Code of Ethics.

PROPOSED AMENDMENTS TO CONSTITU-TION, ADMINISTRATIVE BY-LAWS AND CODE OF ETHICS

DR. HASTINGS: Two proposals were submitted as additions to the Code of Ethics. These are submitted at this time to be acted upon at the next meeting. They must lay over for a

This is an amendment to Paragraph 6 and comes in just before Paragraph 7 under "Professional Deportment":

No member shall wilfully place his professional knowledge, attainments, or services at the disposal of any lay body, organization, group or individual, by whatever name called, or however organized, for the purpose of encouraging unqualified groups and individuals to diagnose and prescribe for the ailments and diseases of animals. Such conduct is especially reprehensible when it is done to promote commercial interests and monetary gain. Such deportment is beneath the dignity of professional ethics and practice; it can be harmful to both the welfare of the animal-owning public and the veterinary profession; it violates principles of humane animal care; it may cause great economic loss and endanger public health and is, therefore, contrary to sound public policy.

Proposal No. 2:

PHARMACISTS

Licensed pharmacists should be recognized by members of the veterinary profession and their services should be utilized; but any pharmacist, unless he also be qualified as a veterinarian, who assumes to diagnose and prescribe for sick animals or for the handling of contagious and infectious diseases of animals, should be denied such recognition and support, since his activities may be viewed as prejudicial to the public interest. contrary to laws governing veterinary medical practice, and in violation of state and federal laws made and provided for the control of animal diseases.

That is submitted at this meeting to be brought up for final action a year hence. DR. R. A. HENDERSHOTT (N. J.): Is Proposal No. 1 open for discussion?

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PRESIDENT SIMMS: I think we will discuss them individually. We need no action on them at this time. They are simply presented, and next year they come up for final action.

DR. D. COUGHLIN (Tenn.): That will be in

the JOURNAL before the next meeting?

DR. HENDERSHOTT: I wonder what effect this Proposal No. 1 to the Code of Ethics would have on veterinarians in veterinary colleges teaching courses to agricultural students. Does this in any way affect that group? EXECUTIVE SECRETARY HARDENBERGH:

DR. E. A. GRIST (Texas): It does, if they

do as that savs

DR. HENDERSHOTT: I think I know what that is aimed at. This is primarily directed at what happened at St. Louis where there was a course on diagnosis and treatment of animal disease offered to pharmacy students. We also offer a course to agricultural students in our veterinary schools where they are associated with the agricultural colleges.

I wonder what effect this proposal would have on a group of veterinarians that are teaching in both schools.

DR. HASTINGS: That was discussed in the Executive Board, and it was the opinion of the Executive Board that it would not affect the teaching of agricultural students. the teaching of agricultural students.

PRESIDENT SIMMS: Does that answer your question satisfactorily, Doctor?

DR. HENDERSHOTT: I will know better when I have a chance to read it and think about it.

DR. W. T. OGLESBY (La.): May we have him read that part again, just the statement to which Dr. Hendershott referred?

Dr. Hastings repeated the first sentence

of Proposal No. 1. . . . DR. B. S. KILLIAN (Mass.): I personally don't see where that affects the agricultural students because they come up with a degree of Bachelor of Science.

DR. HENDERSHOTT: For the purpose of

diagnosis.

DR. HASTINGS: ". . . for the purpose of encouraging unqualified groups and individuals to diagnose and prescribe for the ailments and diseases of animals."

Do you teach your agricultural students to prescribe for the disease and allments of ani-

DR. HENDERSHOTT: I hope not, but I wouldn't be surprised that it is done. (Laugh-

DR. P. O. DORWEILER (Iowa): How would that affect veterinarians that conduct vaccina-tion schools for farmers? I know quite a few veterinarians who conduct schools through the Extension Service.

DR. HASTINGS: It says "to diagnose and prescribe." The vaccination of swine is pro-phylactic rather than the diagnosis of and prescribing for diseased animals. I think there is a difference there.

DR. HENDERSHOTT: Let me handle that just a minute, will you? I think I read in this a condemnation this a condemnation of some of my own ac-I think we need to study this care-In every state in the Union we have what is known as a national poultry improvement plan. In most of those states we are em-ploying lay technicians known as flock testing agents.

Under the national poultry improvement plan—and I think Dr. Simms is the father of this plan, or his predecessor was—we conduct a school. We have just completed one in New Jersey on August 6 at which we had twenty-

two laymen in attendance.

We covered with them the diseases of poultry, with particular reference to their conduct on entering and leaving poultry plants where they are employed to conduct the field test for pullorum disease.

We also take those students into our own laboratory for a day's instruction in how to conduct a pullorum test. So that, when they we give them a certificate attesting to the fact they have successfully taken the course of instruction and are qualified to apply a test in the field for the diagnosis of pullorum dis-

As I say, I have not had time to study this thoroughly or individually, but it would seem thoroughly or individually, but it would seem to me that, from your reading of it, we are guilty as sin under this Code of Ethics, and I do not want to be in that position.

Let's take a good, healthy look at it. We cannot encourage nor have we been able to encourage the veterinary profession across this

nation in rendering an adequate service to the poultry industry. In our state the veterinarians will not render that service, as far as going out and testing birds for pullorum disease control. I think that is going to be largely

true in times of prosperity.

If this, in any way, puts an onus on the individuals who are forced to render a service to the poultry industry, then, of course, we want to look it over carefully. We might doing a great deal more harm than good. We might be

I think, as I said in my opening remarks, this is directed primarily at a condition that exists out in the Middlewest, in one school of pharmacy. If we are to correct one condition there and injure the poultry industry in its operation, in its desire to produce healthy chicks, then I think we had better take a good slant and study this thing here before we approve it.

I just want to throw that in by way of explanation, so that some of you men who are not charged with the responsibility of controls of diseases of livestock will have an idea of

how we are operating and why we are operating the way we are.

DR. J. N. CAMPBELL (Minn.): In Minnesota, poultry is not considered livestock, which would all the best of the considered livestock. DR. HENDERSHOTT: Does it say "live-stock?"

DR. HASTINGS: Is poultry considered livestock in New Jersey?

DR. HENDERSHOTT: It is the second most important agricultural pursuit in animal life. It is a 40 million dollar industry, and our dairy operation is only about 41 million dollars. So it is an important part of our agricultural world over there. As far as we are con-cerned, it may not be livestock but they are live animals.

DR. CAMPBELL: We are not proud of that ondition in Minnesota. The poultry industry, condition in Minnesota.

condition in Minnesota. The poultry industry, the hatchery men, just beat us to it.

DR. HENDERSHOTT: I might say the veterinary profession long, long ago was amply warned about what was ahead. Nobody was interested but a few of us who were trying to stimulate interest, and we got nowhere.

DR. HUGH HURST (Utah): About twelve years ago the U. S. Department of Agriculture accepted poultry and so designated it as live-

accepted poultry and so designated it as live-

PRESIDENT SIMMS: Any further discussion

PRESIDENT SIMMS, Any further discussion of this proposed amendment? Remember this comes up next year for final action.

DR. HASTINGS: Proposed amendments for submission only at the 1947 Session. Proposal No. 1: Amend Article X, Section 3 c) to read:

Dues shall be \$10.00 a year, of which \$4.00

is for payment of one year's subscription to the official JOURNAL of the Association. Dues are payable in advance on January 1

of each year.
Proposal No. 2: Amend Article X, Section 3 d) by striking out "\$7.00" and substituting "\$10.00" in the third line.

Amend the schedule in the same paragraph for the amounts to be remitted each month, in line with the increase in dues provided by the

January15.00	July10.00
February14.17	August 9.16
March13.33	September 8.33
April12.50	October 7.50
May11.66	November 6.66
June10.83	December 5.83

Amend the last paragraph of Section 3 d) to read as follows:

Of the annual dues of \$10.00, \$4.00 is to be credited as subscription to the JOURNAL. PRESIDENT SIMMS: Is there any discussion of this proposed amendment?

DR. HENDERSHOTT: Has the Ex Board taken any action on these? ? recommended by the Executive Board? Executive This is

PRESIDENT SIMMS: Recommended by the

DR. HASTINGS: It is the recommendation of the Executive Board.

DR. D. COUGHLIN (Tenn.): This is to be acted on next year?

DR. HASTINGS: Submitted at this meeting

and acted on next year.

DR. KILLIAN: It doesn't become effective until 1949?

EXECUTIVE SECRETARY HARDENBERGH: If approved.

DR. HASTINGS: Proposal No. 3:

Amend Article IX, Section 4 to read as follows:

Tenure: Members of the House are elected for four years, which means that they shall serve during four consecutive annual sessions of the Association, except that in the be-ginning, approximately half of the constitu-ent groups shall be designated by the Ex-ecutive Board to elect for an initial two-year term in order that all terms of office will not terminate at one time. PRESIDENT SIMMS:

Want to give a little

explanation?

DR. HASTINGS: It was believed that by increasing the tenure of office to four years, it would create more interest in the House of Representatives. A man who has four years would probably study it a little more and take more interest in it, and it would also make for a little better stability. Two years is a rather short time. That is the reason

PRESIDENT SIMMS: As we there is no action to be taken on these proposed amendments, but if there is discussion, we have

time for it.

DR. HASTINGS: The following proposal arising out of recommendation made by Presi-

dent Farquharson at the 1945 Business Session is submitted for final action next year:
Amend Article II, Section 3.—Duties, by deleting "and at all sessions of the House of Rep-

resentatives.

Amend Article III, Section 2, relating to the duties of the president-elect by adding the following paragraph to follow the present first paragraph:

He shall preside at all sessions of the House of Representatives and shall, if desired, present to the House his program for the coming year.

That simply means that the president-elect will preside over the House of Representatives,

rather than the president. It is felt that the president has a good many duties, and it would relieve him of that particular duty and let the president-elect preside over the House.

DR. D. COUGHLIN (Tenn.): That doesn't eliminate the president from presiding, if he

does it?

PRESIDENT SIMMS: It eliminates the president as the presiding officer and sets up president-elect as the presiding officer. Is there any discussion on the proposals that have been made so far, in addition to the discussion we have already had? If not, we will proceed to the proposed amendments to the Constitution and Administrative By-Laws which have been published in the JOURNAL. At the meeting of the Board yesterday certain changes were sug-

DR. HASTINGS: In page 74 of the July issue of the JOURNAL, the proposed changes in the Constitution and By-Laws have been pub-lished, but since their publication they have been revised. We haven't copies to present each one of you with the revised form, but Dr. Hardenbergh has made a rough draft of it since yesterday and will read the revision. Since it involves a change in the Constitution, it is necessary that it lay over for one year be-

is necessary that it lay over for one year before final action, although it was published in the July issue of the JOURNAL.

EXECUTIVE SECRETARY HARDENBERGH: You who were at Boston last year will recall that this Proposal No. 1, which refers to the proposed integration of membership between constituent associations and the AVMA, feit by several delegates to be rather ambiguous in its wording, and they wanted it clarified. Therefore, that proposal was reworded and published in the JOURNAL for three or four months. The rewording is in italics, as you

see there.

Yesterday at the session of the Executive oard, Dr. Cameron offered a suggestion to Board, Dr. simplify this proposal. In any case, it could not have been acted upon finally at this session because, as Dr. Hastings said, it is an amendment to the Constitution and has been redrafted since the Boston Session, and now here is a second redraft. I am going to read this as it is now proposed.

Amend Article III, Paragraph (b) of the Constitution, to read:

The general membership, otherwise known as the active membership, shall consist of (1) graduates of veterinary colleges approved by the Association who are members of their respective constituent associations and who have been duly elected in the manner here-inafter provided, and (2) other graduate vet-erinarians duly elected in the manner pro-vided by the By-Laws, who live in countries outside of the United States and the Dominion of Canada and who are otherwise eligible but do not or could not hold membership in a constituent association.

Amend Article IV, Sectitution to read as follows: Section 1 of the Consti-

territorial, and provincial veterinary associations of North America, The National Association of Federal Veterinarians, and such other official associations as may hereafter become organized in conformity the general plan of the American Veterinary Medical Association, and which have adopted the same qualifications for membership, shall be recognized upon application as constituent associations provided such application is approved by a majority vote of the Executive Board.

Amend Article X, Section 2 (a) of the By-Laws as follows: Drop the last sentence and replace with the following:

The application from a member of a con-stituent association shall contain the certificate of its secretary that the applicant is a member in good standing of that body. In the case of an application from a veterinarian residing outside the United States and of Canada, it shall Dominion tain the endorsement of two members who know the applicant, one or preferably both of whom shall live in the same country as the applicant.

The American Veterinary Medical Associa-tion reserves the right to reject the applica-tion of any member of any constituent association.

Replace paragraph (b) of Section 3, Article X,

Members who have been dropped from constituent associations shall be dropped from the American Veterinary Medical Association on official notification by the secretary of the constituent association and shall be reinstated in the same manner. Whenever a member of this Association is dropped for any reason, Whenever a member the secretary of the constituent association in which he holds membership shall be notified promptly.

Replace Section 4 of Article X with the fol-

The applications of candidates who reside outside the jurisdiction of constituent asso-clations shall be submitted to the Executive Board and shall be accepted or rejected by that body at any regular or special meeting. These members shall have all of the rights and privileges and be subjected to the same obligations as other active members except that they are not required to maintain membership in a constituent association.

PRESIDENT SIMMS: Any discussion of this proposed amendment? This, of course, will be published and be acted upon next year.

The next order of business will be the proposed

amendments that will be acted upon at this meeting; in other words, the ones that have meeting; in other words, the ones that have already been presented and now come up for final action. These were printed in the July JOURNAL on page 75. At the top of the page we have Proposal No. 2. This is the one concerning Article XII-Councils and Committees. We have all had a chance to read this.

is your pleasure?
DR. W. T. OGLESBY (La.): I move the adoption of this.

DR. R. A. HENDERSHOTT (N. J.): Second the motion

PRESIDENT SIMMS: It is moved and seconded that Proposal No. 2 be adopted. The question is open for discussion. If we hear no discussion, we shall call for the vote. Those in favor of the adoption of Proposal No. 2 signify by saying "aye"; those opposed "no." The "ayes" have it. It is so ordered.

Proposal No. 3 concerning filling vacancies on Pscular and special compittees and making

regular and special committees and making

appointments DR. HENDERSHOTT: I move its adoption. DR. I. S. McADORY (Ala.): I second the

PRESIDENT SIMMS: This is a companion to the one that preceded.

PRESIDENT SIMMS: It has been moved and seconded that this be adopted. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

Proposal No. 4 is before you. Do we have a motion with regard to that proposal?

DR. A. A. HUSMAN (N. Car.): I move the

adoption.

DR. R. A. HENDERSHOTT (N. J.): Second the motion.

the motion.

PRESIDENT SIMMS: Moved and seconded that Proposal No. 4 be adopted. Is there discussion? I hear no discussion. Those in favor cussion? I hear no discussion. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it, and it is so ordered.

Proposal No. 5, concerning the establishment

of a Standing Committee on Parasitology.

DR. D. COUGHLIN (Tenn.): I move its adop-

DR. HENDERSHOTT: Second the motion.
PRESIDENT SIMMS: Moved and seconded
that this proposal be adopted, and that a
Standing Committee on Parasitology be estab-

lished. Is there discussion?
... The question was called for...
PRESIDENT SIMMS: The question is called for. Those in favor signify by saying "aye"; those opposed "no." The "ayes" have it. It is so ordered.

The next item for consideration is the report of the Executive Secretary, item 4, Proposals for Honorary Membership, having been included in the report from the Executive Board.

Report of Executive Secretary

To Members of the Executive Board and House of Representatives:

The following report covers the period from Aug. 1, 1946, to July 31, 1947, inclusive.

MEMBERSHIP

On Aug. 1, 1946, the official membership was 8,975. During the year, 471 applicants were admitted and 23 delinquents, who had been dropped for non-payment of dues, returned to good standing, making a gross increase of 494. During the same period, 213 members have been lost for various reasons, leaving a net increase of 281 as shown in the following recapitulation:

Total as of Aug. 1, 1946 Applicants admitted Returned to good standing	471	
		9,469
Lost by death	60	-,
Lost by resignation		
Lost by delinquency	119	-213
Membership as of Aug. 1, 1947.		 9,256
Membership as of Aug. 1, 1946.		 8,975
Gain for the year		281

Of the 471 applications listed since the last report, 281 or about 60 per cent were from graduating members of student chapters in accredited colleges, and the remainder (190) were applications from other graduate veteri-

narians in all parts of the world.

Honor Roll.—This year, no names are added to the list of those who have been in continuous good standing in the Association for fifty years. During the year, Dr. William H. Dodge (AMER '92) of Leominster, Mass., died; he became an honor roll member in 1942. The complete list of honor roll members now numbers ten as fol-

H. P. Eves (UP '87), Wilmington, Del., admitted

in 1889. J. W. Connaway (CVC '90), Columbia, Mo., admitted in 1890.

E. B. Ackerman (AMER '91), Huntington, L. I.,

admitted in 1891.

N. S. Mayo (CVC '89), Highland Park, Ill., admitted in 1891.

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Charles R. Borden (AMER '92) Taunton, Mass., admitted in 1892.

John B. Hopper (AMER '92), Ridgewood, N. J., admitted in 1892.

Bernhard P. Wende (ONT '92), Buffalo, N. Y., admitted in 1892. L. A. Merillat (ONT '88), Chicago, Ill., admitted in 1893.

Paul Fischer (OSU '92), Lakeland, Fla., admitted in 1895.

Charles H. Higgins (MCG '96), Pearl River, N. Y., admitted in 1896.

It will be recalled that the question of the fifty-year requirement for honor roll membership was raised last year as perhaps being too stringent. The Executive Board decided not to recommend any lowering of the requirement, it being felt that such action might not be quite fair to those members who have already attained the distinction and that lowering the required term even by ten years would result in adding such a number to the honor roll that it would cease to be a real distinction.

Deaths.—From Aug. 1, 1946, to July 31, 1947, the deaths of 60 members have been reported to the central office. However, 15 of these died some time prior to the period covered, but had not been reported to us. The names of the de-

ceased members follow:

Ahrendes, Francis McBride, Norman L. Aitken, Lt. Col. J. J. McCormick, Gerald E. Allen, George A. Marquis, Francis M. Miller, Wm. T.
*Moore, Sir John
Moore, William Jr.
Nelson, Conrad L. Baldwin, Arthur F. Blaser, Charles D. Bolenbaker, Maj. Roger F. Niemann, Karl W. O'Malley, Gerald F. O'Neal, Will R. Owens, James A. Booth, George R. Bradbury, Dean D. Britten, Mart S. Brown, Harry W. Paley, Arthur D.
Paxton, John D.
Perkins, Col. Clell B.
Pickeral, Howard E. Busser, Antoon Callahan, Frank H. Casey, John W. Curran, Matthew J. Polk, T. P. Porter, John J. Presler, Henry A. Proctor, L. L., Sr. Dilts, Charles R. Dodge, William H. Downs, E. Aaron *Frey, Gen. Jean Gale, Capt. How-Riley, George E. ard C. Rippetoe, Maj. C. W. Rohrer, Christian G. Gibbons, James L. Gilliam, Ray L. Robbins, Hartwell Gingerich, Ralph P. Ruck, Melvin A. Sanford, E. F. Schwarz, Alfred Shannon, L. D. Gleason, Matthew E. Green, L. Kenneth Hannah, Paul S. Smith, Arthur W. Hiatt, Charles B. Hinkle, Earl S. Spence, James H. Strait, Perl F. Till, S. B. Hollecker, Edward B. Humphrey, Charles W. Jakeman, Harry W. Tuxill, Alfred J. *Vallée, Prof. Henri-Jervis, Horace B. F. Keppel, John Lambrechts, Thorfin Pierre Walters, E. J. Wesner, Marnie E. Lee, Jesse D. Linch, Charles West, James R. Wise, Wesley B. Wood, H. B. Wrinkle, Ellery Lorton, Roy D. Luries, Wilford J. Lytle, William H. York, Walter K.

Resignations.—Thirty-four members resigned during the year, 18 on account of retirement, two for reasons of health, one because of dissatisfaction with AVMA policies, and 13 stated no reason. The Executive Board has accepted these resignations.

Distribution of Membership .- The accompanying

table shows the membership by geographical divisions and special classifications. Thirty-one states and Canada, South America, and foreign countries have had gains during the year; it states show losses; and three, no change. The states showing marked gains are California, Michigan, Minnesota, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, and Wisconsin. The four leading states with respect to number of members are California (706), New York (632), Ohio (549), and Illinois (531); together they account for more than one-fourth of the total AVMA membership.

PAYMENT OF DUES AND DISTRIBUTION OF MEMBERSHIP

N.	LEMB	ERSI	11P		
	Data.	20-14	Deld		Gain
	Paid 1947	Paid	1945	Total	(+) or Loss(-
		11	9	146	-2
Alabama		1	-	39	+6
Arkansas	37	1	2	40	T 3
California	673	24	9	706	+46
Colorado	152	3	4	159	5
				105	+4
Connecticut Delaware	9.4	1	1	26	
*** * * ** * * * * * * * * * * * * * * *	T 400	-	2	61	+3
Florida	199	6	3	138	+8
Georgia	193	10	41	141	
Idaho	43		1	46	-3
Illinois		_	12	531	+9
Indiana	291	10	6	307	-15
Iowa		21	16	484	-8
Kansas			9	251	20
Kentucky			1	97	+3
Louisiana	67		3		+5
Maine			1		
Marriand	117	2	4	123	
Massachusetts	162	3	4 2	167	+1
Michigan	317	12	5 7	334	+21
Minnesota	266	8	7	281	+20
Mississippi	39	2	1	42	
Missouri	242		9	263	
Montana	163	4		171	F -4
Nebraska Nevada				22	7.0
New Hampshire	36	1			+3
New Jersey	207	- 9	5	221	
New Mexico	31	2		33	-2
New York	598	16	18	632	
New York North Carolina North Dakota	101		1	43	-4
North Dakota	43	22	1 14	43 549	+15
Ohio	100	8	6	122	+ 22
Oklahoma Oregon	126			133	+15
Pennsylvania	399	-	4	417	+27
Rhode Island	17	2		19	+3
Pennsylvania Rhode Island South Carolina	51	1	3	55	+2
South Dakota	63	2	1	66	2
	77	3	1	81	
Texas	257	15	17	389 51	
Utah Vermont	43			43	
Virginia	120	2	- 6		
Washington	209	7	6	222	43
West Virginia	32	3	6	41	+4
Wisconsin	252		1	261	+24
Wyoming	42	1	1	44	+5
Subtotal8	029	301	222	8,552	+273
The second secon			3	24	-6
Possessions	21 188	10	5	203	+8
Mexico	20	0	1	23	
South America	61	8		23 69	+1
Foreign	38		1	4.99	1.46
APO	41	2	8	51	18
Honorary	37			37	-4
Honor Roll	10			10	+101

Honor Roll

10

^{*}Honorary Member.

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	Paid 1947		Paid 1945		Gain (+) or Loss(—)
Special cases Miscellaneous*	7 233			233	+4
Subtotal Grand Total	656 8,685	30 331	18 240	704 9,256	+8 +281

*Made up of members requesting suspension for duration of the war, 30; addresses unknown, 170; members receiving AJVR instead of AVMA Journal, 33; total, 233.

†This is not an actual increase, but is because the figure is shown here separately for the first

II. FINANCES

During the fiscal year ended June 30, 1947, the executive secretary's office transmitted total receipts of \$152.532.25 to the Association's depository banks. During the same period, expenditures of \$156,648.11 were vouchered for payment, leaving a net loss of \$4,115.86 for the year's operations. The treasurer's report, found elsewhere in the proceedings, summarizes the receipts and disbursements and shows the Association's net worth as reflected by the official audit for the fiscal year. However, since the report shows a deficit for the year and since the secretary's office is responsible for disbursement of funds as provided in the budget, some comments on the financial situation for the year may be appropriate in this report.

First of all, it became necessary to begin modernization of the mailing and the journal circulation departments in the central office. To this end, nearly \$2.000 was spent for modern equipment to replace old and inadequate machinery that had served the Association for many years and when the membership was about half its present number. New equipment obtained includes an automatic postage meter and letter sealing machine, an automatic duplicating machine, and a letter-opening machine to expedite the handling of the great amount of mail matter received in the central office. The purchase of this equipment exceeded funds budgeted for office fixtures by some \$1,200 dol-

Secondly, an expenditure of over \$1,000 was made for the scientific exhibit on Swine Erysipelas for the AMA Centennial, an expense which was not anticipated and therefore not provided

for when the budget was set up. Finally, nearly \$5,000 more than budgeted was spent for paper for the Association's publications; this excess was brought about by the need for and opportunity to acquire a reserve stock of paper, following nearly five years of scarcity, plus three increases in the price of paper during the year.

During the current year, plans have been made to continue the modernization of the journal circulation department by installation of an automatic addressing machine.

The Association's Dollar: How Obtained and How Spent.—Income is from two principal sources, membership dues and advertising in the JOUR-NAL. It may surprise many members to know that their dues account for less than half of every dollar which the Association receives for its operations during the year. The breakdown is as follows:

Dues												*					*	*			*				\$0.43
Advertising	4																						0		.28
Subscriptions		(n	0	r	1-	-1	n	e	n	n	b	e	r	B)								0	
Convention r	6	C	e	1	p	tı	B					×					*	8	8	8	8	×			.10

Miscellaneous	(Sale of	emblems,	
directories,	reprints,	etc.)	.08
		-	1 00

The breakdown of how the Association's dollar is spent shows the following distribution:

Salaries .							*							*					*	,		*		\$0.29
Printing jo	ourna	ıls	9				*	œ.				*				8					8		*	.26
Convention	exp	e	n	81	8									×				×		*		×	×	.10
Travel and	l Coi	m	m	11	tt	e	e	•	X	1),1	91	n	8	6		0		0		0			.08
Publicity																								
Rent and	Ligh	t												8		*					×			.05
Postage .								*						*									*	.04
Office Sup	plies					*										×		*						.04
Miscellane	ous								× -							*				*				.08
																							-	
																								£1 00

The budget for the fiscal year 1947-48 appears elsewhere in the proceedings.

Receipts for Research Fund.—In spite of an intensive drive by the Special Committee on Financing Research (Drs. J. V. Lacroix, chairman, W. A. Hagan, and C. C. Hastings) plus good coöperation from a number of state chairmen, the goal of \$100,000 in contributions from veterinarians alone was not reached by nearly \$25,000. Several states distinguished themselves by exceeding their quotas, namely, Colorado, Florida, Massachusetts, Missouri, New Mexico, and Rhode Island; the District of Columbia and Hawaii also are in this select group.

Although the desired goal was not reached, contributing veterinarians should know that their money is being put to work, the Research Council having activated four new fellowships for graduate veterinarians for the academic year 1947-48 and has approved continuation of three already operating for another year. About \$12,000 will be devoted to fellowships during the coming year.

III. PUBLICATIONS

The circulation of the monthly JOURNAL is now nearly 11,000 and continues to grow as a natural result of increased membership and nonmember subscriptions. The editorial staff works hard to make each issue of increasing interest, especially to general practitioners, and the improved paper situation will permit the publication each month of issues of a size commensurate with needs, within reason. There is great need, however, for more and better case reports from practitioners, especially well-documented case reports and reports of controlled clinical investigations.

THE AMERICAN JOURNAL OF VETERI-NARY RESEARCH suffered a decrease in circulation this past year and also, for the first time, failed to pay its costs by about \$2,000. The deficit is accounted for largely by increased costs of printing and paper and by a decrease in the amount of revenue anticipated from subscriptions.

The 1947 Directory.—After many delays, the new directory has been printed, and most of the copies ordered in advance have been mailed. The new edition is 180 pages and contains several new features. The effort to indicate for the first time the type of work engaged in by veterinarians was only partially successful, due to the failure of many veterinarians to return their directory listing cards. Nearly 2,000 members did not cooperate in this respect and a similar proportion of non-member veterinarians.

Gratifying, however, was the response to solicitation for advance orders for the 1947 directory. This was an experiment and resulted in the advance sale of about 4,000 copies at the

special member price of \$2.00 (the non-member price is \$5.00); it necessitated the printing of 5,000 copies as compared with 2,000 for recent editions. The directory contains the names and addresses of about 12,000 veterinarians of whom nearly 9,500 are AVMA members and 2,500 are non-members who are included for the first time. The aim of the directory department now is to complete accurate listings for all graduate veterinarians in the United States and Canada (total about 15,000) for the next edition.

The contents of the 1947 directory make it

The contents of the 1947 directory make it essentially an encyclopedia on organized veterinary medicine in the U.S. and Canada, veterinary education and licensure in the two countries, and on the official federal, dominion, and state livestock sanitary services.

IV. PUBLIC RELATIONS AND PUBLICITY

The organized public relations program has been continued during the year (regular releases to newspapers and news services, farm papers, livestock journals and extension editors; monthly mailings of farm radio briefs to nearly 300 stations coast to coast; weekly radio scripts on animal health topics for affiliated state and provincial associations, etc.) Special articles and items have also been prepared for science publications and national magazines, and the central office has collaborated with feature writers on several occasions during the past year on the writing of stories about the veterinary profession.

A new development has been added to the public relations program since the first of the year, the "AVMA Clip Sheet" which is a one-page issue of timely topics on animal diseases mailed monthly to a selected list of nearly 5,000 country weeklies. This innovation was launched in February, 1947, and has been well received.

Most disappointing, and difficult to understand, is the failure of so many state veterinary associations to take advantage of the weekly radio script service which has been available from the AVMA since 1944 without one cent of cost. Each year, fewer associations have used the programs, and this year the number is down to about fifteen. It appears that, although veterinarians and veterinary associations want more professional promotion, many of them expect someone else to do it for them. If your state or provincial association is not using the radio broadcasts, would it not be well to ask why not?

Attention is invited to the exhibit on AVMA public relations activities which is located in the third floor foyer.

V. PROFESSIONAL PUBLIC RELATIONS AND LIAISON WORK

Every year sees an increase in the extent to which the AVMA is asked to participate in the work of other organizations related to animal and human health. Our officers, committees, and representatives work hard to represent the veterinary profession and veterinary science in numerous ways. This is as it should be so that guidance and leadership in matters related to veterinary education and veterinary service may have qualified direction. This state of affairs indicates a strong and growing recognition of the AVMA and its affiliated associations as the fountainhead of veterinary affairs.

fountainhead of veterinary affairs.

At times, it appears that the AVMA and its varied activities are better known and understood outside the profession than among its own members. This failure to "sell itself", in spite of the travels of AVMA officers to veterinary meetings in all parts of the country and in spite of efforts to make the monthly JOURNAL

carry the story of Association work to its members, is a fault which must be overcome, and study is being given to methods. We want our members to belong as a matter of conviction and understanding and not just as a matter of form.

VI. THE EDUCATIONAL SITUATION

The unprecedented interest in, and demand for, veterinary education and more and better veterinary service continues. Opportunities for veterinarians to engage in special lines of work are also increasing, with the usual statement by prospective employers that "if we cannot find a veterinarian for the job, we will probably employ an animal husbandry graduate." etc.

ploy an animal husbandry graduate," etc.

It appears that the field of veterinary medicine will continue most active for a number of years. The new schools, already established or projected, at state universities in California, Georgia, Illinois, Minnesota, Missouri, and Oklahoma will not, in my judgment, satisfy the demand nor bring about a "saturation" of veterinary personnel for the forseeable future. These six new schools, plus the school established at Tuskegee Institute, Ala., in 1945, will not make themselves felt to any appreciable extent, graduate-wise, for from five to ten years. If we can hold our own with respect to supplying personnel needs during this period, we shall be doing well.

The establishment of the new schools poses an immediate problem for the Council on Education because frequent inquiries are already being received regarding their accreditation status. Although final approval of a given school would normally not be in order until the full curriculum is in operation, it has been suggested that the Council consider what may be done in the way of tentative accreditation; otherwise, the new schools will have no official standing with respect to AVMA accreditation, and all concerned will be in an anomalous position.

The postponment of the veterinary program at Brandels (formerly Middlesex) University, Waltham, Mass., brings to an end for the time being, at least, an unfortunate development in veterinary education that should never have been started in the first place. It is greatly to be hoped that, if the program is ever resumed, it will be done in good faith and under auspices which will not cause another backward step in veterinary education.

VII. LEGISLATIVE MATTERS

As reported in the JOURNAL, the Association was concerned during the last Congress with several pieces of legislation affecting veterinary personnel, the veterinary services, and veterinary science in general. Through representations made by AVMA officers and with good help from a number of state associations, we were successful in obtaining provision for a general officer for the Veterinary Corps in the Army-Navy Promotion Bill, but falled in efforts to correct the service-credit feature of the bill for veterinary officers which requires appointed to enter the Army as second lieutenants and serve in that grade for one year before becoming eligible for promotion.

In the Agriculture Department Appropriation Bill, the Association opposed the House action to assess the costs of meat inspection against the packers under federal supervision and were successful in collaboration with others in getting the Senate Appropriations Committee to restore the funds needed to continue the governmentally financed status of the service; however, in the closing days of Congress, the House insisted upon the change and obtained its way.

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As a matter of princple, we still believe that the change is mistaken economy, that it is wrong for those who are under inspection in an important public health activity to pay for the inspection, and that the Association should do its part to obtain a reversal of the policy in the next Congress.

The third legislative matter of particular interest was the so-called science foundation act which was to provide federal aid for a huge, overall expansion of research in several scien-tific fields, including medicine. In this connec-tion, President Simms, President-Elect Hagan, and others have served as liaison representatives for the Association and have kept in touch with developments to insure inclusion of veterinary medicine in the provisions for medical research in any federal science foundation setmedical up. Although such an act was passed in the last days of the 80th Congress, the President vetoed it, according to recent press reports.

VIII. EXECUTIVE BOARD ELECTIONS

The term of Dr. A. E. Cameron, District I (Canada), expires at the end of this annual Dr. Cameron retired as Veterinary Director General of Canada in March, 1943. He has served his constituency and the Association ably and faithfully for fifteen years, having been first elected in 1932 and reëlected for full five year terms in 1937 and 1942. Dr. Cameron's counsel will be greatly missed, but the Executive Board will welcome as his successor Dr.
Andrew L. MacNabb, principal of Ontario Veterinary College, who was elected to a five-year
term in District I in an election completed on

Aug. 12, 1947. In District IX (the New England States and New York), an election was also completed on August 12 to select a member for a full fiveyear term beginning at the conclusion of this meeting. However, due to the fact that one of the candidates, Dr. C. P. Zepp, Sr., was identified on the ballot simply as "Clarence P. Zepp" and because of the closeness of the vote, the Executive Board has directed, in order that there be no question about the validity of the result, that new ballots be mailed to all members in the district for a new election. (Note: New ballots were mailed under date of Aug. 26, 1947, and the election will be completed before the winter meeting of the Board .- Ed.)

Another change takes place this year as a result of the by-law amendment adopted in 1946 whereby the out-going president is to serve as an ex officio member of the Board for one year, replacing the member-at-large. The term of Dr. C. C. Hastings, who has served so capably as member-at-large since 1942 and as chairman since 1945, expires at this meeting. He will also be greatly missed but the Board will welcome his successor, retiring President Dr. B. T. Simms, who will serve until the end of the annual meeting in 1948.

IX. WOMEN'S AUXILIARY

Under the splendid guidance of its officers, Mrs. H. Preston Hoskins, president, and Mrs. C. L. Miller, secretary-treasurer, the Women's Auxiliary has continued to be an active force on the "distaff side" of our Association work. Their efforts public relations-wise are really helpful, and their student loan fund still is available to help worthy and needy senior veterinary students when the occasion arises.

The Auxiliary now has a membership of over 500 and is growing steadily.

X. MAIL AND CORRESPONDENCE

The reason, if any, for publishing these figures is as a rough yardstick of the growth of

the Association's work and activities. For the report period:

Incoming Me Letters, a		185	es	 0	0					9	41,171
Various p Packages											
Total .											

vear.

Outgoing	Mail																			
First	class														*					78,796
Third	class										*									57,498
Journa	al (A'	VI	M	A	L	1	R.	n	d	1	A.	J	V	1	3)				140,066

This is an increase of 25 per cent over last year.

RECOMMENDATIONS

If it is in order for the Executive Secretary to do so, I would respectfully make a few recommendations to the Executive Board and House of Representatives in addition to the usual matters of business which are brought before them. For the record, these recommen-

dations are as follows:

1) The adoption of the by-law amendment proposed in 1945 by President Farquarson to integrate the memberships of constituent associations with AVMA membership. In my judgment, this proposal has been subjected to all sorts of objections, some real and some imaginary; however, it is the next logical step in implementing and activitating inter-association relationships and will eventually strengthen us all. It will take some time to perfect the details, even if adopted now, and affirmative action will permit us to begin work on the system.

2) Favorable action to establish a National Board of Veterinary Examiners. This proposal has hung fire for years and has also been considerably misunderstood. Its prospects and capabilities for accomplishing good, however, far outweigh the objections which have been made to it in my opinion.

made to it, in my opinion.

3) Adoption of suitable amendments to the Code of Ethics specifically worded so as to apply to objectionable activities of members who prostitute their professional degrees and talents. Without specifically phrased requirements in the Code, the Association is helpless to act on otherwise valid objections and charges, and continues to harbor in its membership some persons who are betraying true veterinary science and their profession as well.

In conclusion, I want to express my gratitude to the officers, committees, and members for their splendid support and coöperation throughout the year, and to the central office staff whose faithful day-in and day-out efforts and interest really keep the Association machinery functioning.

Respectfully submitted, s/J. G. HARDENBERGH, Executive Secretary.

PRESIDENT SIMMS: You have heard the report of the executive secretary.

DR. HENDERSHOTT: I move it be adopted.
DR. A. A. HUSMAN (N. Car.): Second it.
PRESIDENT SIMMS: Moved and seconded that it be adopted. Are there questions or discussions concerning this report?

PRESIDENT SIMMS: The question is called for. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The report is adopted.

Next on the agenda is the report of the treasurer. Dr. Lacroix is busy with another meeting, and we will have his report at the evening session.

Now we come to the item of reports of stand-First is the report of the ing committees. Committee on Budget.

Report of the Budget Committee

I have before me this proposed budget which has been worked out in the executive offices, approved by the Board of Governors, and then approved by the Board of Governors, and then approved by the Executive Board. I know that it is very difficult or perhaps impossible to present a set of figures without having them visualized for you and present them in such a way that you can understand them, if I go into detail. So I will simply try to summarize for you.

. . President Simms summarized the budget. (See adjoining column for Budget.)

PRESIDENT SIMMS: We hate very much to submit to you a budget that starts out in the red. We were faced in the Executive Board with a choice of one of two things: either continue the present program of the AVMA and expect to eat a little bit into the reserve which we have set up during the past several years, or curtail the activities of the organization and have the budget come out even.

One thing I call to your attention specifically: During the past year we spent more money for travel than had been budgeted. You know that railroad fares went up; you know that hotel accommodations increased in price during the year. I dare say some of you realize that meals increased a little bit in price in the last twelve months. So that the travel and committee budget expenses did run considerably above those in the past. We were faced with the question, shall we cut that back down?

Last year we served fifty-odd veterinary sociations by furnishing, from the AVMA office or its officer personnel, speakers at these groups. It was the decision of the Board to continue our activities full speed is my feeling and, I believe, the feeling of the other members of the Board, too, that those last few dollars that we spend are the ones that pay the biggest dividends. In other words, that pay the biggest dividends. In other words, I think we get back from the Association twice as much for our \$7 as we used to get for \$5. The last two dollars have helped us a great, great deal. Now, with rising costs, we find that for the next year the \$7 dues will not cover the activities that we have outlined. Nevertheless we are esting up a program. less, we are setting up a program that con-tinues the present activities in full.

We have estimated the total grand receipts at \$154,000-odd, which is \$2,000 above this year, but expenditures at \$164,000-odd, or a budget that is \$9,900 in the red. We dislike to come up with that sort of a suggestion, but we would hate still more to come in and say, "We will slow down the American Veterinary Medical Association."

Tied up with this budget, of course, is this proposal that we increase the dues and that we take over, in increasing the dues, part of the expenses of the delegates who come to this meeting, which of course is more or less a way of swapping dollars among ourselves, in that if your state association pays the dues and you pay the expenses of the trip and you pay your dues into the Association, that expense comes out of you through the state, while if you pay that into the national association, and the national association pays it back, then it comes to you from the national association. Gentlemen, I say again that I realize that

we cannot give you a very full picture. We

Report of the Committee on Budget Budget Estimates-1947-48 Receipts

AVMA FUND	1947-48
	Estimates
Dues (50 per cent)\$	33,000.00
Directory	3,500.00
Emblems and Keys	175.00
Convention	15,000.00
Miscellaneous	2,500.00
Reprints	4,000.00
U. S. Bond Interest	1,500.00
O. S. Bond Interest	1,500.00
Total\$	59,675.00
JOURNAL FUND	00,010.00
Advertising\$	43 000 00
Dues (50 per cent)	33,000.00
Subscriptions	12,000.00
bubbliptions	12,000.00
Total\$	99 000 00
RESEARCH JOURNAL	00,000.00
Subscriptions\$	6 000 00
Advertising	1 000 00
Advertising	1,000.00
Total\$	7 000 00
Grand Total Receipts\$1	154,675.00
Less Disbursements	
Deficit\$-	-9.900.00
Disbursements	.,
Disoursements	1010 10
AVMA EXPENSE	1947-48 Estimates
Audit\$	850.00
Bank Service Charges	250.00
Committee Expense	4,000.00
Committee Expense	
Convention	15,000.00
Directory	3,000.00
Emblems aind Keys	200.00
Furniture and Fixtures	2,500.00
Ins. and Surety Bonds	200.00
Legal	800.00
Miscellaneous	2,500.00
Motion Picture Library	1,000.00
Postage	6,000.00
Publicity	
	6,000.00
Refunds	650.00
Refunds Registry of Vet. Path	650.00 1,000.00
Rent and Light	650.00 1,000.00 6,600.00
Rent and Light	650.00 1,000.00 6,600.00 500.00
Rent and Light	650.00 1,000.00 6,600.00 500.00 3,000.00
Rent and Light	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00
Reporting Reprints Research Fund Drive	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00
Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies. Taxes Tel. and Tel.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00 1,000.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00 1,000.00 9,000.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies. Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00 1,000.00 9,000.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel Travel Twelfth Int. Cong. Prize. Clip Sheet	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 1,000.00 750.00 1,000.00 9,000.00 125.00 1,800.00
Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies. Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00 1,000.00 9,000.00
Rept and Light Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize. Clip Sheet Scientific Exhibits	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 750.00 1,000.00 125.00 1,800.00 1,000.00
Reporting Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 5,750.00 750.00 1,000.00 9,000.00 1,25.00 1,800.00 1,000.00
Reporting Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total \$1 50 per cent.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 5,750.00 750.00 1,000.00 9,000.00 1,25.00 1,800.00 1,000.00
Rent and Light Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total \$1 50 per cent.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 1,750.00 750.00 1,000.00 125.00 -1,800.00 1,000.00 22,975.00 61,487.50
Reporting Reporting Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total \$1 50 per cent.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 1,750.00 750.00 1,000.00 125.00 -1,800.00 1,000.00 22,975.00 61,487.50
Rent and Light Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total \$1 50 per cent.	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 1,750.00 750.00 1,000.00 125.00 -1,800.00 1,000.00 22,975.00 61,487.50
Rent and Light Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total 50 per cent. AVMA JOURNAL Cuts and Etchings. \$	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 1,750.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,500.00 1,500.00
Registry of vet. Path Rent and Light Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies Taxes Tel. and Tel Travel Twelfth Int. Cong. Prize Clip Sheet Scientific Exhibits Total 50 per cent AVMA JOURNAL Cuts and Etchings Paper Printing	650.00 1,000.00 6,600.00 500.00 3,000.00 500.00 51,750.00 3,000.00 9,000.00 1,000.00 1,000.00 22,975.00 61,487.50
Rent and Light. Reporting Reprints Research Fund Drive Salaries Stationery & Office Supplies. Taxes Tel. and Tel. Travel Twelfth Int. Cong. Prize. Clip Sheet Scientific Exhibits Total \$1 50 per cent. AVMA JOURNAL Cuts and Etchings. \$ Envelopes Paper	650.00 1,000.00 6,600.00 500.00 3,000.00 51,750.00 1,000.00 1,750.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00 1,000.00
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have the budget pretty well itemized here. I would be glad to attempt to answer any question. The final items on the budget are set up; It is broken down here into the different items, salarjes, cost of paper, cost of etchings, etc. I am sure I could not read it in an intelligible way, so I won't attempt to do it. What disposition shall we have of the budget?

DR. A. A. HUSMAN (N. Car.): I move we

accept.

I. S. McADORY (Ala.): Second it. PRESIDENT SIMMS: Moved and seconded nat it be accepted. It is open for discussion. DR. B. S. KILLIAN (Mass.): How much is

or reserve amount, approximately?
PRESIDENT SIMMS: The question is asked to the approximate amount of our reserve. EXECUTIVE SECRETARY HARDENBERGH:

About \$200,000.

DR. KILLIAN: Let's keep on going ahead and, if necessary, use some of it.
DR. C. H. FAUKS (Okla.): Will this increase in dues take care of the additional ex-

pense?

PRESIDENT SIMMS: Of course, the Executive Board and the Board of Governors cannot predict exactly what will happen if we increase the dues. I thought when we increased from \$5 to \$7 we would see rather a definite falling off in membership. I didn't think it would be too large but some falling off. As a matter of fact, I don't believe anything happened at all. The membership continued to go up on the same curve. Unless the membership does fall off, of course this increase in dues would give us about \$25,000, a little more than \$25.000 more than our present income, which would take care of this \$9,900, and it would take care of paying part of the expenses of the members of the House when they come here. It should take care of it, unless there is a decrease in the income.

is a decrease in the income.

... The question was called for...
PRESIDENT SIMMS: Is there further discussion on the budget? The question is called for. Those in favor signify by saying "aye"; those opposed "no." The "ayes" have it. The proposed budget is adopted.

The first report among the other Standing Committees is that of the Council on Education.

Dr. Hastings has this report. It was not re-printed. It is not long. We will ask you to printed. It is not long. We will as bear with us while it is being read.

Report of Council on Education

DR. HASTINGS: There are a few reports that were not received in time for the preprints, and you have not had the opportunity to read them. The report of the Council on Education was not received in the central office in time to be included in the preprints. read that report to you.

. Dr. Hastings read the report of the Coun-

cil on Education.

SIMMS: You have heard the PRESIDENT report of the Council on Education. What is your pleasure?

DR. HUSMAN: Move it be accepted. DR. McADORY: Second it.

Second It.

PRESIDENT SIMMS: Discussion?
DR. R. C. SNYDER (Pa.): If this is accepted, will it be published as written at the present time?

PRESIDENT SIMMS: Yes.
DR. SNYDER: A question has arisen in regard to using the term "inbreeding" relating to the faculties of the various schools, used in this report, and if, perhaps, a better term other than "inbreeding" could not be substituted. I don't have the word exactly.

PRESIDENT SIMMS: It is a word that we hear very generally used. It is used not only in connection with veterinary schools but in educational colleges as well.

DR. SNYDER: The question has been raised as to whether it would be a suitable word to put in print, that is in relationship to the

choice of colleges.

PRESIDENT SIMMS: I think the word has been in fairly general use around college campuses. I know I have heard it, and I think

I have seen it in print.
DR. SNYDER: It has been used more or less throughout the college campus. It has come be used as a term regarding the choice of men for a college faculty who are graduates of that college. The question arose whether it would be a good word to use and to publish, on that score. It is only a question. If the rest feel it is suitable as used, then it should accepted.

DR. HUSMAN: Let's leave that to the editor; leave it to Brother Merillat. He can find word. If he can't find one, nobody else can. DR. I. D. WILSON (Va.): "Who employ too

many of their own graduates" would satisfy.
PRESIDENT SIMMS: Is that satisfactory? DR. HUSMAN: Leave it to Dr. Merillat. DR. E. A. GRIST (Texas): That term is used most generally by the students.
DR. SNYDER: I think this gentleman's choice of words is definitely more acceptable

to those who have talked to me. HUSMAN: I think if we left it to

Merillat, he would find it.

PRESIDENT SIMMS: Is it satisfactory that we call it to the attention of the editor and it to him to make any changes he leave sees fit?

DR. SNYDER: Yes, with the suggestion this gentleman made over here.

PRESIDENT SIMMS: What did you suggest, Dr. Wilson? WILSON: ". . DR. . Who employ too many

of their own graduates."
PRESIDENT SIMMS: Any further discussion on this report?

on this report?
... The question was called for...
PRESIDENT SIMMS: The question is called for. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it.
Next on the list is the report of the Committee on Legislation. Dr. Hardenbergh is the report of that committee.

chairman of that committee.

Report of Standing Committee on Legislation

DR. HASTINGS: It is the recommendation of the Executive Board that this be accepted for publication in the proceedings.
DR. HUSMAN: I move we approve ommendation of the Executive Board.
DR. McADORY: Second it.

I move we approve the rec-

PRESIDENT SIMMS: Moved and seconded that the recommendation of the Board be approved. Is there discussion? There appears to be none. Those in favor signify by saying "aye"; opposed "no." The motion is carried. Next is the Committee on Biological Products.

Report of Standing Committee on Biological Products

DR. HASTINGS: It was recommended by the Executive Board that the report be accepted nd published in the proceedings.
DR. HUSMAN: Move we accept the recom-

mendation of the Executive Board.
DR. McADORY: Second the mo

DR. McADORY: Second the motion.
PRESIDENT SIMMS: It is moved and seconded that the recommendation of the Executive Board be accepted. Is there discussion of the report of the Committee on Biological Products?

. . The question was called for. .

PRESIDENT SIMMS: The question is called for. Those in favor of the motion signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

Next is the report of the Committee on Therapeutic Agents and Appliances.

Report of Standing Committee on Therapeutic Agents and Appliances

DR. HASTINGS: The Executive Board recommends that this report be accepted and published in the proceedings.

DR. HUSMAN: I move we accept the recommendation of the Executive Board.

DR. McADORY: Second the motion.

PRESIDENT SIMMS: It is moved and seconded that this recommendation be accepted. Discussion? Those in favor of the motion signify by saying "aye"; opposed "no." The "ayes" The recommendation of the Executive have it. The recon Board is approved.

Report of the Committee on Public Relations.

Report of Standing Committee on Public Relations

DR. HASTINGS: This is quite a long report. It is recommended that the report be accepted and published in the proceedings, with the deletion under the heading NEWS RELEASES, fifth col-umn, of the name and address of the individual cited in the weekly newspaper by the executive secretary of the Minnesota Humane Society. It was thought best to omit that name and address.

DR. HUSMAN: That deletes all of that down

to the last?

PRESIDENT SIMMS: It just deletes the name What shall be the disposition and address. of this recommendation?

DR. HUSMAN: I move we accept the recommendation of the Executive Board.

DR. B. S. KILLIAN (Mass.):

motion

PRESIDENT SIMMS: You have heard the motion, and it has been duly seconded. Is there discussion? If not, those in favor of the motion signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

The report from the Poultry Committee was not applied in the appropriate Day we have

not published in the preprints. Do we have a copy of that here for presentation?

Report of Standing Committee on Poultry

DR. HASTINGS: Your Poultry Committee failed to make a report. There is nothing we

can do about that.

PRESIDENT SIMMS: The next is the Committee on Nutrition.

Report of Standing Committee on Nutrition

DR. HASTINGS: The Executive Board recommended that the report be accepted and published in the proceedings.

DR. McADORY: I make a motion that we

DR. HUSMAN: Second it.

PRESIDENT SIMMS: It has been moved and seconded that the report of the Committee on Nutrition be accepted and published. Is there discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have it, and it is so ordered.

The next is the report of the Registry of

Veterinary Pathology.

Report of Registry of Veterinary Pathology

DR. HASTINGS: Recommended that the report be accepted and published in the pro-ceedings, with the deletion of the word "na-tional" preceding "association" in the third tional" preceding "association" in the third line of the first full paragraph in the second column. It reads now: "Its growth and its expanding scope of usefulness attests to the need for this activity of our national associa-tion." Leave out the word "national" because, actually, this Association is an international association. It crosses the national borders. DR. W. T. OGLESBY (La.): I move

I move the

adoption of the report.

McADORY: Second the motion. PRESIDENT SIMMS: You have heard the motion. Is there discussion? If not, we call for the question. Those in favor signify by saying "aye"; opposed "no." The "ayes" have

it. It is so ordered.

The report of the Committee on Rabies was not received in time for publication. As General Kelser, chairman of that committee, is here and has the report, we will ask him to present it at this time. General Kelser!

Report of Special Committee on Rabies

DR. R. A. KELSER: I will say, for the benefit of the House, that this report was not presented in time for publication, particularly because a conference of interested individuals was called, that is, representatives of interested organizations. Until we had a reply from these representatives that they were in favor of the report of the conference, we could not complete the report of this committee. This is the

report of the Special Committee on Rables.
... Dr. Kelser read the report of the Special Committee on Rables.
DR. KELSER: Mr. President, you will note from this report there are two actions necessary: one is for the American Veterinary Medical Association, as an interested organization represented in this conference, to approve the conference report and also, that the entire report of the Committee on Rabies be approved as a report of the committee. I suppose the action will be to present it to the Executive Board and then have it come up later for action by

the House. I so move.
PRESIDENT SIMMS: I am not sure we will have a meeting of the House after the next meeting of the Executive Board. Will we? EXECUTIVE SECRETARY HARDENBERGH:

The last meeting of the Board is scheduled for Thursday morning.

PRESIDENT SIMMS: There probably will not be a meeting of the House after that? EXECUTIVE SECRETARY HARDENBERGH:

PRESIDENT SIMMS: I think, in that case, we had probably better refer this directly to the House. What do you think, Dr. Hastings: DR. HASTINGS: I would think so, because

the Executive Board does not meet until after the House adjourns.

PRESIDENT SIMMS: In that case, gentle-men, we would suggest the House take action gentleon this report of the Special Committee of Rabies, without having a recommendation from the Executive Board.

DR. KILLIAN: I move we accept the report PRESIDENT SIMMS: As General Kelser called attention, there is the recommendation of the conference and then the recommendation of the committee of the AVMA. What shall we do concerning the recommendation of the conference itself?

DR. HUSMAN: I move its accepta DR. McADORY: Second the motion. I move its acceptance. A.

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PRESIDENT SIMMS: Moved and seconded PRESIDENT SIMMS: Moved and seconded that the report of the conference as submitted by General Kelser be accepted. Is there any discussion? If not, those in favor signify by saying "aye"; opposed "no." Carried.

Now we have the report of the committee itself, the Special Committee on Rables.

DR. HUSMAN: I move we accept it.

DR. B. C. McLEAN (S. Car.): I would suggest we go a little further than accepting that

gest we go a little further than accepting that report. As I recall, we have in our national and state meetings been discussing it for years. As I sat here and listened to that report of Dr. Kelser's, it impressed me that the committee did a marvelous piece of work. In addition to accepting it, we should commend them for the excellent piece of work they

have done in connection with rabies, if that is

not out of order. DR. McADORY: Second the motion.

PRESIDENT SIMMS: Perhaps you could make that as an amendment to Dr. Husman's

DR. McLEAN: I will make it as an amend-

PRESIDENT SIMMS: It is moved and seconded that the previous motion be amended onded that the previous motion be amended to include the commendation of the committee. Is there discussion of the motion to amend? If not, those in favor signify by saying "aye"; opposed "no." Now for the motion as amended, those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The report is accepted and the committee is officially commended for having done an excellent job.

While Dr. Kelser is here, he has reports as representative of the organization in two different categories, and it would be convenient, I think, to ask him to present these two reports.

... Dr. Kelser reported on the Fourth Congress of Tropical Medicine and the meeting of UNESCO, where he was the AVMA representative.

PRESIDENT SIMMS: Thank you, Dr. Kelser.
We have heard the two reports from Dr.
Kelser. Shall we act first on the report of
the Fourth Congress on Tropical Medicine? DR. HUSMAN: I move we accept the re-

port.

McADORY: Second the motion.

PRESIDENT SIMMS: It has been moved and seconded that the report on the Fourth and seconded that the report on the Fourth Congress of Tropical Medicine be accepted. Any discussion? Those in favor signify by saying "aye"; opposed "no." The "ayes" have it.

Second is the report on the UNESCO Conference in Philadelphia.

DR. S. B. KILLIAN (Mass.): I move we

DR. S. B. KILLIAN (Mass.), I move a accept that report.
DR. HUSMAN: Second that motion.
PRESIDENT SIMMS: It has been moved and seconded that this report be accepted. Is there discussion? If not, those in favor signify by saying "aye"; those opposed "no." The "ayes" have it. It is so ordered.



Second Session, House of Representatives

August 18, 1947

The second session convened at 7:10 p. m., President Simms presiding.

PRESIDENT SIMMS: The House will please come to order. We shall have the roll call. Executive Secretary Hardenbergh called

State	Delegate
Alabama	I. S. McAdory
Arizona	John Micuda
Arkansas	Hubert Shull
California	J. M. Arburua
Connecticut	I. R. Vail
Georgia	W. L. Sipple
Illinois	L. R. Davenport
Iowa	P. O. Dorweiler
Kansas	Joe Knappenberger
Kentucky	Wm. M. Coffee
Louisiana	W. T. Oglesby
Maine	S. W. Stiles
Massachusetts	B. S. Killian
Michigan	M. J. Geiger
Minnesota	J. N. Campbell
Mississippi	R. H. Stewart
Missouri	S. W. Haigler
Nebraska	L. I. Hines
Nevada	Warren B. Earl
New Jersey	R. A. Hendershott
New York	F. F. Fehr
North Carolina	A. A. Husman
North Dakota	J. H. Winslow
Ohio	E. J. Starbuck
Oklahoma	C. H. Fauks
Oregon	John O. Schnautz
Pennsylvania	R. C. Snyder
South Carolina	B. C. McLean
Tennessee	D. Coughlin
Texas	E. A. Grist
Utah	Hugh Hurst
Virginia	I. D. Wilson
West Virginia	T. C. Green
Wisconsin	C. R. Curtis
Wyoming	H. E. Kingman, Sr.
Ontario	E. F. Johnston
Puerto Rico	Dr. A. Lopez-Pachec

EXECUTIVE SECRETARY HARDENBERGH: Mr. President, a quorum is present.

Report on Inter-American Veterinary Congress

PRESIDENT SIMMS: We have an announcement for the House.

The director general of the Pan American Sanitary Bureau has informed the executive secretary of the American Veterinary Medical Association that they will offer all the facilities of their organization to assist in the estab-lishment of the first Pan American Veterinary Conference. Cables have been dispatched to South American veterinary associations and deans of veterinary colleges, requesting their support of the convention. At this time Peru, Brazil, Chile, and Cuba have replied, giving their enthusiastic support. It is felt that a meeting is necessary at this time to establish a hemispheric veterinary policy.

I might say this information just came to us today concerning support from the Pan Amer-

Sanitary Bureau.

This morning we omitted item 6 in the order of business because our treasurer was not available at that time. He is with us now. The first thing will be the report of the treasurer.

Report of Treasurer

Treasurer Lacroix summarized the report. (See opposite page for Treasurer's Report.) DR. R. A. HENDERSHOTT (N. J.): I move the report of the treasurer be adopted as read. DR. A. A. HUSMAN (N. Car.): Second the mo-

PRESIDENT SIMMS: Is there discussion of the motion? If not, we will call for the question. Those in favor of adopting the report as read signify by saying "aye"; opposed "no." The "ayes" have it.

DR. HENDERSHOTT: Mr. President, I think at this time it might be well for the House of Representatives, in view of the fact that our good treasurer has decided he is so senile he can't possibly carry on any longer, to express to him our deep appreciation of the manner which the office of treasurer of this Association has been conducted during the term Sorry to see him his office.

DR. D. COUGHLIN (Tenn.): Make that in

the form of a motion.

DR. HENDERSHOTT: I move this group go DR. COUGHLIN: Second it. DR. B. S. KILLIAN (Mass.):

Second It. DR. B. S. KILLIAN (Mass.): Second it. PRESIDENT SIMMS: You have heard the motion and the second. I think it is not necessary to call for discussion. Those in favor signify by saying "aye"; opposed. Carried. We will proceed with the reports of special committees. The first one is the Committee on History of which Dr. Morrillet is the observed.

History, of which Dr. Merrillat is the chairman.

Report of Special Committee on History

The Executive Board recommends that this report be accepted and published in the proceedings

DR. HUSMAN: I move we accept the recom-mendation of the Executive Board.

DR. R. H. STEWART (Miss.): I second it. DR. D. COUGHLIN (Tenn.): It calls here for the rating of a Standing Committee. It would be in order, after we vote on this motion, to

move that we make this a standing committee.

PRESIDENT SIMMS: It would be made a standing committee by an amendment to the By-Laws, which would have to be done in the usual procedure; that is, it would have to be prepared and acted on.

DR. COUGHLIN: If we approve this than

DR. COUGHLIN: If we approve this, then

that would go into effect?

PRESIDENT SIMMS: We could ask the sec retary to prepare the amendment, which would

make it a Standing Committee.

DR. COUGHLIN: If we approve this, then will go to the Executive Board in the usual form to be made a Standing Committee, would

PRESIDENT SIMMS: Yes. The statement in the report is that the committee wants a The statement rating of a Standing Committee. I believe a motion necessary if we were to ask the secretary to prepare the amendment, which would make it a Standing Committee.

We could dispose of this report and then, if you wanted to, introduce a motion to make it a Standing Committee. Any further discussion? The question is on the adoption of the report of the Committee on History. Those in favor signify by saying "aye"; opposed "no." have it. It is so ordered. The "ayes"

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Financial Report—J. V. Lacroix, Treasurer

CASH RECEIPTS

July 1, 1946, to June 30, 1947

A.V.M.A. Fund (Dues, advertising subscriptions, and miscellaneous)	. \$146,223.93
Research Journal (Advertising and miscellaneous)	. 6,083.32
A.V.M.A. Special Fund No. 2 (Interest on bonds)	. 125.00
Salmon Memorial Fund (Interest on bonds)	. 100.00
A.V.M.A. Research Fund (Contributions and interest on bonds)	. 48,200.59
Total receipts	.\$200,732.84
Less—Cash disbursements	
Excess of cash receipts over cash disbursements	.\$ 40,125.71

CASH DISBURSEMENTS

July 1, 1946, to June 30, 1947

A.V.M.A. Fund (Not including purchase of U. S. Treasury bonds)\$	147,933.40
Research Journal	8,120.78
A.V.M.A. Special Fund No. 2 (International Veterinary Congress Prize)	125.00
A.V.M.A. Research Fund (Not including purchase of U. S. Treasury Bonds)	4,427.95
Total disbursements	160,607.13

BALANCE SHEET

June 30, 1947

NET WORTH

A.V.M.A. Fund	116,035.39
A.V.M.A. Special Fund No. 2	5,000.00
Salmon Memorial Fund	4,950.60
A.V.M.A. Research Fund	86,134.70
TOTAL NET WORTH	212.120.69

COMPARISON OF FUNDS

June 30, 1946, and June 30, 1947

	June 30		Increase	
	1947	1946	(Decrease)	
A.V.M.A. Fund	\$116,035.39	\$119,782.32	\$(3,746.93)	
A.V.M.A. Special Fund No. 2		5,000.00		
Salmon Memorial Fund	4,950.60	4,850.60	100.00	
A.V.M.A. Research Fund		42,362.06	43,772.64	
TOTAL	\$212,120.69	\$171,994.98	\$ 40,125.71	

DR. COUGHLIN: Mr. President, I move that the secretary be instructed, in the course of procedure, to make this a Standing Committee: DR. HENDERSHOTT: I second the motion.

DR. COUGHLIN: History goes on and on. It develops further and is of interest to everybody.

PRESIDENT SIMMS: Is there further discussion on this motion? If not, we will call for a vote. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The secretary will proceed as instructed by the motion.

The next is the Nomenclature of Diseases report by the Committee, with Dr. H. C. H. Kernkamp as chairman,

Report of Special Committee on Nomenclature of Diseases

DR. HASTINGS: The Executive Board rec-

DR. HASTINGS: The Executive Board recommended that this report be accepted and published in the proceedings.

DR. KILLIAN: I move we accept that report.

DR. HUSMAN: Second the motion.

PRESIDENT SIMMS: It has been moved and seconded that the report of the Committee on Nomenclature of Diseases be accepted. Any discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have it.

The next is the report of the Committee on Parasitology.

Report of Special Committee on Parasitology

DR. HASTINGS: The Executive Board recommended that this report be accepted and published in the proceedings. You will prob-ably remember that a year ago this committee recommended that the committee be made a Standing Committee. With the adoption of the amendment, voted on this morning, this committee becomes a Standing Committee.

DR. HUSMAN: I move we accept the recommendation

DR. COUGHLIN: Is it necessary for any action on this?

PRESIDENT SIMMS: That report should be

adopted, of course, or disposed of.

DR. HENDERSHOTT: I second it.

PRESIDENT SIMMS: Any discussion? Those in favor signify by saying "aye"; opposed "no."

The "ayes" have it, and it is so ordered. he "ayes" have it, and it is so ordered. We did not receive a report of the Commit-

tee on Food and Milk Hygiene in time for pre-

Report of the Special Committee on Food and Milk Hygiene

Dr. Hastings read the report of the Spe-

cial Committee on Food and Milk Hygiene. . . . DR. HASTINGS: This report has been presented to the Executive Board. The Executive sented to the Executive Board. Board recommended this report be accepted and published in the proceedings.

DR. HUSMAN: I move we accept the recommendation of the Executive Board.
Dr. KILLIAN: Second the motion.
PRESIDENT SIMMS: Moved and seconded

that this report be accepted. Any discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have it.

The next is the report of the Committee on Diseases of Food-Producing Animals.

Report of Special Committee on Diseases of Food-Producing Animals

DR. HASTINGS: The Executive Board recommended that this report be accepted and published in the proceedings.

DR. OGLESBY: The list on anaplasmosis

should also include Florida, Kansas, and Louisiana. The Auburn regional laboratory should be omitted, as they do not have a project on anaplasmosis.

DR. OGLESBY: Northwestern Louisiana and northeastern Texas should be added to the list of places where anthrax occurred.

DR. HUSMAN: I move we accept the report as corrected.

DR. McADORY: I second the motion.

PRESIDENT SIMMS: Moved and seconded that the report be accepted as corrected. Any further discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

Report of the Committee on Diseases of Wild

and Fur-Bearing Animals.

Report of Special Committee on Diseases of Wild and Fur-Bearing Animals

DR. HASTINGS: The Executive Board recommends that this report be accepted and published in the proceedings.

DR. HUSMAN: I move we accept the report

of the Executive Board.

DR. KILLIAN: Second the motion.

PRESIDENT SIMMS: It is moved and seconded that this report be accepted. Any discussion?

DR. COUGHLIN: Mr. President, would rables in fox come under this group?
PRESIDENT SIMMS: Yes, fox is a wild animal and also a fur-bearing animal.

DR. COUGHLIN: What are you going to do about it? We protect them in Tennessee. You couldn't kill a fox down there without going to

DR. HASTINGS: Do you protect rables, too? DR. COUGHLIN: Apparently so, from what we have down there. We get it from Georgia and Alabama.

... The question was called for ...
PRESIDENT SIMMS: The question is called for on this report. You will note in here that there is mention of the transfer of diseases back and forth, from wild animals to domestic You notice the report of the Commitanimals. tee on Rabies discussed at some length today

the disease in fox, and so on.
DR. COUGHLIN: We had a fox which attacked

DR. COUGHLIN: We had a fox which attacked a dog. I think it is getting serious when a fox will attack a dog. They closed school because they were afraid of the fox attacking children. PRESIDENT SIMMS: The question has been called for. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it.

The report of the Committee on Diseases of Small Animals is not in the preprint but it has

Small Animals is not in the preprint but it has been acted on by the Executive Board.

Report of Special Committee on Diseases of Small Animals

DR. HASTINGS: This is the report of the Committee on Diseases of Small Animals.

. Dr. Hastings read the report of the Com-

mittee on Diseases of Small Animals . . . DR. HASTINGS: The Executive Board recommends the acceptance of this report and publication in the proceedings. The manuscript covering the booklet which the Committee contemplates circulating is to be submitted to the Board for approval before printing.
DR. HUSMAN: I move we accept the recom-

mendation of the Executive Board.
DR. McADORY: Second it.

PRESIDENT SIMMS: You have heard the motion and the second. Is there discussion?

... The question was called for ...

PRESIDENT SIMMS: The question is called for, those in favor signify by saying "aye": opposed "no." The "ayes" have it. The report

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of the Committee on Diseases of Small Animals approved.

The next item is the report of the Committee

on Motion Picture Library.
DR. HENDERSHOTT: May I ask a question for information. Will this booklet they are go-ing to distribute to laymen be printed also in our JOURNAL?

DR. HASTINGS: I don't think I could answer that. Could you answer that, Dr. Hardenbergh? EXECUTIVE SECRETARY HARDENBERGH: I don't think we can answer what that might be. This is carrying out one of the things adopted two or three years ago in the recom-mendations of that Small Animal Committee, in which they suggested that information be published on kennel sanitation. This is one of those.

DR. HENDERSHOTT: Kennel sanitation? EXECUTIVE SECRETARY HARDENBERGH:

This is one step in that procedure.

DR. HASTINGS: Some of the members of the Executive Board felt that this book might contain information that should not be in the hands of kennels and pet shops and so forth, that they might use it in some way that was not desirable. Therefore it was moved that the not desirable. Therefore it was moved that the book be submitted to the Executive Board for approval, before it was printed. Whether it is going to be published in the JOURNAL or not, that will be passed on by the Committee on Journal and the editorial department. I don't think that could be answered at this time.

DR. HENDERSHOTT: I expect we are all right. The small animal men on that committee are not going to broadcast any harmful information as far as their business goes. There have been so many questions brought up rela-

have been so many questions brought up relative to educating the public, I wondered what

was. (Laughter.)

PRESIDENT SIMMS: The next is the report of the Committee on Motion Picture Library.

Report of Special Committee on Motion Picture Library

DR. HASTINGS: The Executive Board recommended that the report be accepted and published in the proceedings.

DR. OGLESBY: I move the acceptance of the

ecommendation of the Executive Board. DR. McADORY: Second the motion.

PRESIDENT SIMMS: It has been moved and econded that the recommendation of the Exceutive Board be approved. Unless there is discussion, we will call for the question.

DR. E. A. GRIST (Texas): What about the additional funds they want? Was any action taken in the Executive Board on that?

PRESIDENT SIMMS: The funds are included in the budget under the heading of Committees. ASSISTANT EXECUTIVE SECRETARY KLUSSENDORF: As a matter of information,

the funds were doubled.

DR. GRIST: What was the original?

ASSISTANT EXECUTIVE SECRETARY

KLUSSENDORF: Five hundred dollars; it is now

PRESIDENT. SIMMS: The question is called for. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The recommendation of the Executive Board is approved. Next is the report of the Committee on Veterinary Service, formerly the Postwar Planning Committee.

Report of Special Committee on Veterinary Service

DR. HASTINGS: The Executive Board recommended that this report be approved and accepted and published in the proceedings.

DR. GRIST: I move the adoption of the

Board's recommendation.

DR. McADORY: Second the motion.

PRESIDENT SIMMS: Moved and seconded that this be adopted.

The question was called for

PRESIDENT SIMMS: Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. The recommendation of the Executive Board adopted.

Now the report of the Committee on the National Board of Veterinary Examiners.

Report of Special Committee on National Board of Veterinary Examiners

DR. HASTINGS: The Executive Board recom-mended that this report be accepted and pub-lished in the proceedings. Dr. Krill said that next year they would have something very definite to act upon, something concrete and in good form. They have been working on it and will finish the work of this committee. He said the Committee would complete their work next year.

DR. HUSMAN: I move we accept the recommendation of the Executive Board.
DR. McADORY: Second the motion.
PRESIDENT SIMMS: Moved and seconded that the recommendation of the Board in connection with this committee report be approved. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it.

Next we have the report of the Committee

on Enforcement of the Code of Ethics.

Report of Special Committee on Enforcement of Code of Ethics

DR. HASTINGS: The Executive Board recommended that this report be accepted and published in the proceedings.

DR. HUSMAN: I move we accept the recom-mendation of the Executive Board.

DR. R. H. STEWART (Miss.): Second it. PRESIDENT SIMMS: Moved and seconded that the recommendation of the Executive Board be approved. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

Next is the Joint Committee on Foods.

Report of Joint Committee on Foods-AVMA and AAHA

DR. HASTINGS: It is recommended by the Executive Board that this report be accepted and published in the proceedings.

DR. HUSMAN: I move we accept the recommendation of the Executive Board.

DR. HENDERSHOTT: Second the motion.
PRESIDENT SIMMS: Moved and seconded that this recommendation be approved. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is carried.

Next is the report of the Subcommittee on

Veterinary Items, National Formulary Commit-

Report of Subcommittee on Veterinary Items, National Formulary Committee

DR. HASTINGS: The Executive Board recommended that it be accepted and published in the proceedings.

DR. McADORY: Move the acceptance.

DR. HENDERSHOTT: Second it.
PRESIDENT SIMMS: It has been moved and seconded that this report be approved. Those in favor of the motion signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

That completes the committee reports, with the exception of the Committee on Resolutions, I believe. We have not had a report from this committee. We are advised there has been no session of the Committee on Resolutions.

ask that the Board authorize the customary resolutions of thanks to the Committee on Local Arrangements, the Convention Bureau, the press and radio services, and any other resolutions of thanks to any others who have con-tributed to the success of the meeting. These can be drafted, of course, and inserted in the minutes of the meeting.

Report of Standing Committee on Resolutions

DR. HUSMAN: Mr. President, I move that the secretary be instructed to draw up fitting resolutions relative to anything that he feels proper, to be inserted in the record.

DR. McADORY: Second the motion.
PRESIDENT SIMMS: It has been moved that the secretary be instructed to prepare the usual resolutions covering thanks to the Committee on Local Arrangements, to the Convention Bureau, to the press, to the radio services, and to others who have contributed to the success of the meeting.

EXECUTIVE SECRETARY HARDENBERGH: We are asking the House to authorize that reso-

lution.

tion. That is always customary.
PRESIDENT SIMMS: We have had a motion and a second concerning the instruction of the secretary to prepare the usual resolutions. Those in favor of the motion aignify by saying "aye"; opposed "no." The "ayes" have it. The secretary is instructed to so prepare these resolutions.

EXECUTIVE SECRETARY HARDENBERGH: We did not act on the report of the Research

Council.

Report of Research Council

DR. HASTINGS: It is recommended by the Executive Board that this report be accepted published in the proceedings.

DR. HENDERSHOTT: I move that we support the decision of the Executive Board in this re-

DR. HUSMAN: Second the motion.

PRESIDENT SIMMS: Moved and seconded that the recommendation of the Board be approved. Those in favor signify by saying "aye" opposed "no." The "ayes" have it. It is so The "ayes" have it. It is so ordered.

Now we have the reports of the representa-tives: Representative to the Horse and Mule Association of America; Representative to the Inter-Association Council on Animal Disease and Production; Representative to American Asso-ciation for the Advancement of Science; Representative to the National Live Stock Loss Prevention Board; Representative to Association of Honorary Consultants, Army Medical Library; Representative to the Division of Biology and Agriculture of the National Research Council; Representative to the Division of Medical Sciences of the National Research Council; Representative to National Society for Medical Research; Representative to the U.S. Pharmacopeial Convention; Representative to the Inter-American Veterinary Congress.
DR. HASTINGS: These reports of representa-

tives are not controversial reports, and the Ex-ecutive Board acted on them as a whole. They approved them and recommended they be published in the proceedings. They acted on all of those reports you see here in the preprints. The House can do that or it can take them up one

at a time

ASSISTANT EXECUTIVE SECRETARY KLUSSENDORF: There are three additions now available. Those should be added to the others

the preprint.

DR. HASTINGS: There are three reports that do not appear in the preprints. The first one is a Representative to the National Research Coun-cil, Division of Medical Sciences. ... Dr. Hastings read the report of the Representative to the National Research Council Division of Medical Sciences; the report of the Representative to the International Veterinary

Congress; and the report of the Representative to the Inter-American Veterinary Congress...
PRESIDENT SIMMS: That last is supplemented by the information we gave at the beginning of the meeting on the action of the Pan American Sanitary Bureau, which makes it probable that we can have such a meeting in

the near future.

You have heard the action of the Executive Board. Shall we adopt the reports of the representatives en masse or shall we act on them one by one?

DR. HUSMAN: I move we accept the recommendation of the Executive Board and adopt

them en masse

DR. STEWART: Second the motion.

PRESIDENT SIMMS: It is moved and seconded that the reports of the representatives be adopted en masse. Any discussion? If not, those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

If this will be our last meeting, we have action on the proposals for honorary membership. Those proposals were given to us this morning. I believe the Constitution and By-Laws require that they should be acted upon at the last meeting.

Action on Proposals for Honorary Membership

Dr. Griggs has been professor of botany at George Washington and was chairman of the Division of Biology and Agriculture of the Na-tional Research Council. As chairman of that committee, he did yeoman service for the veteri-nary profession. He worked long and hard to get the veterinary profession a place of recogni-tion before the National Research Council.

DR. HENDERSHOTT: I move that the names of Sir Daniel Cabot and Dr. Robert Griggs be added to our roster as honorary members in the American Veterinary Medical Association and they be so informed.

DR. COUGHLIN: Second the motion. HUSMAN: Second the motion.

PRESIDENT SIMMS: You have heard the motion and the second. Is there discussion? If not, the question is on the approval of the recom-mendation that these two men be elected to honorary membership. Those in favor signify by saying "aye"; opposed "no." The "ayes" have It is so ordered.

We have no report from the Regional

UNESCO Conference in Denver.

EXECUTIVE SECRETARY HARDENBERGH:

That is right.

PRESIDENT SIMMS: I think that completes, then, the reports of the committees and representatives in so far as they have reached us. Do we have any items of unfinished business?

EXECUTIVE SECRETARY HARDENBERGH: Not for the House, except what may be brought

up in the House.
DR. KINGMAN: In regard to that UNESCO report, I attended that meeting. I wonder if, as a matter of record, it might be well to state that representatives were there. I think it is on the record that representatives were there.

PRESIDENT SIMMS: That is correct. DR. KINGMAN: Then I am sorry I said any-

I just wanted to make it a matter of thing. record.

EXECUTIVE SECRETARY HARDENBERGH: Dr. Newsom was there.

PRESIDENT SIMMS: Is there anything else to come up on the floor of the House under the heading of unfinished business?

Under the head of new business, we have the matter of invitations for the annual convention

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be those in 1949. We will ask the chairman of the Board to give us the Board's report on that.

Meeting Invitations for 1949

DR. HASTINGS: As you know, the meeting is going to be held in San Francisco next year, but in 1949 we have invitations from Detroit, Mich., and St. Louis, Mo.

It was voted by the Executive Board to accept the invitation extended by Detroit, contingent upon satisfactory accommodations being available; this to be ascertained by the central office after a visit to Detroit. St. Louis is second choice in the event Detroit is unable to provide necessary facilities.

The meeting naturally should go to Toronto and would have been in Toronto this year except for the fact that they still have wartime restrictions on their hotels. If that is not removed, it will be impossible to go to Toronto in '49. These hotels are booked ahead, and they want to know, and we cannot wait to see what is going to happen up there. That is the reason the Executive Board took the action reason the Executive Board took the action

DR. HENDERSHOTT: Do we have to meet again in August?

PRESIDENT SIMMS: I will ask the secretary

to answer that question.

EXECUTIVE SECRETARY HARDENBERGH:
The By-Laws provide that the annual session
may be held any time between July 1 and December 31 of the calendar year.

DR. HENDERSHOTT: We can't hold it before

EXECUTIVE SECRETARY HARDENBERGH:

Not without amending the rules. DR. HENDERSHOTT: Brother, there's going to be an amendment proposed for you for next

EXECUTIVE SECRETARY HARDENBERGH:

We have a six months' spread now.
DR. HENDERSHOTT: That is all right, move the six months around the clock a little farther. These invitations for either St. Louis or Detroit for August are fine! We are going to have a repetition of what we have here at Cincinnati at either of those cities at this time of the year. It is a toss-up whether you sweat to a spot in Detroit or in St. Louis.

It seems we ought to be able in this Associa-tion to find some other time of the year in which to hold a meeting, when it is more com-fortable to sit down and meet. Of course, be-tween July and December doesn't give us much leeway. Preferably I would like to see the meeting in the spring. I like to see things bud-ding forth in the spring. ding forth in the spring. (Laughter.) I think it is a good time for us to do a little budding ourselves. What is the great objection to meeting in the spring?

PRESIDENT SIMMS: Practitioners can't come. DR. COUGHLIN: That is an awfully busy me. The college people can't come during time.

school time.

PRESIDENT SIMMS: I think you have your PRESIDENT SIMMS: I think you have your controversial question now, Doctor. (Laughter.) DR. HENDERSHOTT: I promised to bring this up, and I knew it would be controversial when I introduced it.

DR. COUGHLIN: We had a nice meeting in St. Louis last time. It wasn't too hot. When we met in Memphis we had delightful weather.

DR. HENDERSHOTT: Maybe there is something wrong with the veteringry profession.

billing wrong with the veterinary profession. I will give you an idea of where these people rate. The International Baby Chick Association held a meeting in Cleveland, which started on July 18 and ended around July 26. Those boys did it right. We had a 2½-in, fall 52 snow in Cleveland, or the consistent of Cleveland, or Cleveland, or the outskirts of Cleveland on July 18.

DR. HUSMAN: That has been discussed today. I had a number of folks complaining about the heat. I don't blame them. I always thought a better time would be about the middle of September or the first part of October. I don't see why we can't have it then. PRESIDENT SIMMS: That is on account of

the college people.

DR. HENDERSHOTT: I am not in favor of that.

PRESIDENT SIMMS: The question of having a fall meeting has been discussed ever since I have been a member of the AVMA anyway, and it has always been brought out that any meeting after the tenth or fifteenth of September interferes with the people on the college staffs throughout the country.

DR. HENDERSHOTT: Children going to school

PRESIDENT SIMMS: Yes, I think we have always come back to July or August.

DR. HENDERSHOTT: I don't mind taking the youngsters out in April. That is the tag end, and they don't miss much, but starting in is wrong.

DR. COUGHLIN: I move that we accept the recommendation of the Executive Board. DR. McADORY: Second the motion.

PRESIDENT SIMMS: Is there further discus-

PRESIDENT SIMMS: The question has been called for. Those in favor signify by saying "aye"; opposed "no." The "ayes" have it. It is so ordered.

DR. HENDERSHOTT: What area is Minnesota

EXECUTIVE SECRETARY HARDENBERGH: This zone we are in now, Zone 1.
DR. HENDERSHOTT: What is the matter

with Minnesota inviting us up there?

EXECUTIVE SECRETARY HARDENBERGH: l can answer that. They want us to come to Minnesota just as soon as they are sure they have hotel accommodations either in St. Paul or Minneapolis. Right now they do not have the hotel facilities. The Minnesota crowd is anxious to have us.

DR. HENDERSHOT: We are anxious to go. PRESIDENT SIMMS: Anything else in the

PRESIDENT SIMMS: Anything else in the way of new business?

DR. GRIST: I would like to show the usual Texas optimism and extend an invitation to this group to meet in San Antonio, Texas, in 1956. Of course, Dr. Hendershott can argue about the temperature in San Antonio. We will also that all the hotels are air-conditioned. guarantee that all the hotels are air-conditioned, guarantee that all the hotels are air-conditioned, ail of the stores, and everything eise that you want is air-conditioned. We know that you will enjoy a most pleasant time in San Antonio. We have the proper credentials, and so forth, to present to the secretary at the close of this meeting, an invitation from the local veterinary association in San Antonio, the Texas State Association, the hotel association, and so forth. We know we have the accommodations for you. We feel quite certain that in 1950 we can celebrate the close of the foot-and-mouth disease outbreak in Mexico, and that will be the logical place to do it.

DR. HENDERSHOTT: I am glad you brought that in. (Laughter.)

PRESIDENT SIMMS: Is there anything else under the heading of new business?
DR. HUSMAN: I move we adjourn.
DR. McADORY: Second it.

PRESIDENT SIMMS: It has been moved and seconded that we adjourn. Those in favor signify by saying "aye"; opposed "no." It is car-

. . . The meeting adjourned at 8:15 p. m. . . .

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Standing Committees Budget (Ex-Officio)

- W. A. Hagan, Chairman, New York State Veterinary College, Cornell University, Ithaca, N. Y.
- L. M. Hurt, 203 Administration Bldg., Union Stock Yards, Los Angeles, Calif.
- J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Iil.
- W. R. Krill, 2656 Tremont Rd., Columbus 8,
- W. A. Young, 157 W. Grand Ave., Chicago, Ill.

Council on Education

- W. L. Boyd, Chairman, Division of Veterinary Science, University Farm, St. Paul 8, Minn. (Representing Research and Education) (1952).
- *James Farquharson, Secretary, Division of Veterinary Medicine, Colorado A. & M. College, Ft. Collins, Colo. (Representing Clinical Sciences) (1950).
- *W. A. Aitken, Merrill, Iowa (Representing General Practice) (1952).
- Col. Seth C. Dildine (retired), Canal Winchester, Ohio. (Representing Military Service) (1950).
- Garth A. Edge, Provincial Department of Public Health, Toronto, Ont. (Representing Public Health) (1951).
- *W. A. Hagan, New York State Veterinary College, Cornell University, Ithaca, N. Y. (Representing Basic Sciences) (1948).
- S. W. Haigler, 7645 Delmar Blvd., St. Louis 5, Mo. (Representing Small Animal Practice) (1948).
- C. C. Hastings, Williamsville, Ill. (Representing Large Animal Practice) (1953).
- M. S. Shahan, Pathological Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C. (Representing Government Service) (1949).

Legislation

- J. G. Hardenbergh, Chairman, ex-officio, 600 S. Michigan Ave., Chicago 5, Ill.
- C. C. Franks, 1133 44th St., Des Moines 11, Iowa. (1948).
- George W. Gillie, 1522 House Office Bldg., Washington 25, D. C. (1950).
- H. C. Givens, 1102 State Office Bldg., Richmond, Va. (1951).
- N. J. Miller, Box 335, Eaton, Colo. (1949).

Resolutions

- R. A. Hendershott, Chairman, 33 Oak Lane Ave., Trenton 8, N. J.
- J. G. Hardenbergh, Secretary, ex-officio, 600 S. Michigan Ave., Chicago 5, Ill.
- J. Gordon Anderson, 1016 9th Ave. W., Calgary. Alberta.
- H. L. Darby, 503 U. S. Court House, Fort Worth 2, Texas.
- F. E. Kitchen, Box 532, Greenville, S. Car.
- G. B. Munger, 1921 First Ave. E., Cedar Rapids, Iowa.
- R. E. Shigley, 710 2nd St. S.E., Minot, N. Dak.

⁶These officers also constitute the Committee on Program, with the executive secretary of the AVMA as chairman, ex-officio.

These three members comprise the Executive Committee of the Council and are elected by the Executive Board; the remaining members are appointed by the president.

Biological Products

- H. E. Biester, Chairman, Iowa State College, Ames, Iowa. (1948).
- G. H. Good, 304 Capitol Bldg., Cheyenne, Wyo. (1949).
- Ashe Lockhart, 809 Woodswether Rd., Kansas City 6, Mo. (1951).
- D. I. Skidmore, 4452 Volta Pl. N.W., Washington 7, D. C. (1952).
- F. H. Suits, Odessa, Mo. (1950).

Therapeutic Agents and Appliances

- Dr. Roger P. Link, Chairman, Department of Veterinary Physiology and Pharmacology, University of Illinois, Urbana, Ill. (1951).
- L. A. Gendreau, 67 Willington S., Sherbrooke, Quebec. (1952).
- R. C. Klussendorf, ex-officio, 600 S. Michigan Ave., Chicago 5, Ill.
- J. V. Lacroix, Box 872, Evanston, Ill. (1949).
 H. E. Moskey, Food and Drug Administration, Washington 25, D. C. (1948).
- John L. Wells, 1817 Holmes St., Kansas City 8, Mo. (1950).

Public Relations

- A. H. Quin, Jr., Chairman, 239 East 72nd Terrace, Kansas City 5, Mo. (1949).
- C. E. DeCamp, Post Rd. at Maple St., Scarsdale, N. Y. (1952).
- Clifton D. Lowe, 3429 Oakwood Terrace N.W., Washington 10, D. C. (1951).
- C. F. Schlotthauer, Division of Experimental Medicine, The Mayo Foundation, Rochester, Minn. (1948).
- Cassius Way, 25 Vanderbilt Ave., New York 17, N. Y. (1950).

Poultry

- John P. Delaplane, Chairman, Rhode Island State College, Kingston, R. I. (1950).
- C. A. Brandly, Department of Veterinary Science, University of Wisconsin, Madison, Wis. (1951).
- W. R. Hinshaw, 222 Rice Lane, Davis, Calif. (1949).
- P. V. Neuzil, Blairstown, Iowa, (1948).
- A. B. Wickware, 1031 Carling Ave., Ottawa, 1st Dist., Ont. (1952).

Parasitology

- W. E. Swales, Chairman, Institute of Parasitology, Macdonald College, P. O. Quebec, Que. (1950).
- D. W. Baker, New York State Veterinary College, Cornell University, Ithaca, N. Y. (1948).
- H. E. Kemper, Box 464, Albuquerque, N. Mex. (1951).
- R. E. Rebrassier, Veterinary Clinic, The Ohio State University, Columbus 10, Ohio. (1949).
- R. D. Turk, School of Veterinary Medicine, Texas A. & M. College, College Station, Texas (1952).

Nutrition

- C. C. Hastings, Chairman, Williamsville, Ill. (1948).
- A. H. Groth, Regional Laboratory, Animal Disease Research, Auburn, Ala. (1950).
- H. M. LeGard, 355 Main St. N., Weston, Ont. (1949).
- Jesse Sampson, College of Veterinary Medicine, University of Illinois, Urbana, Ill. (1952).
- Hubert Schmidt, College Station, Texas. (1951).

Registry of Veterinary Pathology Army Institute of Pathology

- W. H. Feldman, Chairman, The Mayo Foundation, Rochester, Minn. (1948).
- Major T. C. Jones, V. C., Army Institute of Pathology, Army Medical Museum, Seventh and Independence Ave. S.W., Washington, D. C. (1949).
- O. L. Osteen, Box 83, Beltsville, Md. (1950).
- Col. J. E. Ash, M.C., curator, American Registry of Pathology, Army Medical Museum, Washington, D. C. (Consulting member.)

Special Committees

History

- L. A. Merillat, Chairman, 453 East 87th Pl., Chicago 19, Ill.
- J. M. Arburua, 26 Fell St., San Francisco, Calif. G. H. Glover, 149 Sylvan Court, Fort Collins, Colo.
- R. S. MacKellar, Sr., 329 W. 12th St., New York 14, N. Y.
- J. R. Mohler, 1620 Hobart St., N.W., Washington 9, D. C.
- J. L. Tyler, 211 N. Washington Ave., Whittier, Calif.
- L. Van Es, 3335 W. St., Lincoln, Neb.

Nomenclature of Diseases

- H. C. H. Kernkamp, Chairman, Division of Veterinary Science, University Farm, St. Paul 8, Minn.
- F. R. Beaudette, New Jersey Agricultural Experiment Station, New Brunswick, N. J.
- I. A. Merchant, Iowa State College, Ames, Iowa. Carl Olson, Jr., College of Agriculture, University of Nebraska, Lincoln, Neb.
- Benj. Schwartz, Zoölogical Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C. (Consulting Member).

Food and Milk Hygiene

- H. E. Kingman, Jr., Chairman, 350 Walnut St., Elmhurst, Ill.
- G. H. Hopson, 165 Broadway, New York 6. N. Y.

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E. M. Lynn, 8052 Calumet Ave., Chicago 19, Ill.
C. H. Pals, 308 E. Howell Ave., Alexandria, Va.
James H. Steele, Chief, Veterinary Public Health Section, States Relations Division,
U. S. Public Health Service, Washington, D. C.

Diseases of Food-Producing Animals

- L. D. Frederick, Chairman, Reseach Laboratory, Swift and Co., Chicago, Ill.
- G. S. Harshfield, Veterinary Department, South Dakota State College, Brookings, S. Dak.
- E. M. Joneschild, 914 5th Ave., Helena, Mont.
- J. D. Ray, 1124 Harney St., Omaha, Neb.
- J. T. Schwab, Livestock Sanitation Division, sion, State Capitol, Madison, Wis.

Diseases of Wild and Fur-Bearing Animals

- E. R. Quortrup, Chairman, Patuxent Research Refuge, Bowie, Md.
- R. J. Kirk, Saskatchewan Fur Marketing Agency, Regina, Sask.
- A. M. McDermid, State Experimental Game and Fur Farm, Poynette, Wis.
- A. C. Secord, 1105-07 Yonge St., Toronto, Ont.
- S. G. Stephan, 2824 Vine St., Cincinnati 19, Ohio.

Diseases of Small Animals

- Wayne H. Riser, Chairman, Box 872, Evanston, Ill.
- C. E. DeCamp, Post Rd. & Maple St., Scarsdale, N. Y.
- L. C. Moss, Veterinary Hospital, Colorado A. & M. College, Ft. Collins, Colo.
- H. C. Stephenson, 105 Cornell St., Ithaca, N. Y.

Motion Picture Library

- Jack R. Dinsmore, Chairman, North Shore Animal Hospital, 1817 Church St., Evanston, Ill.
- A. G. Boyd, Department of Agriculture, State Office Bldg., Sacramento 14, Calif.
- A. G. Danks, New York State Veterinary College, Cornell University, Ithaca, N. Y.
- W. J. Gibbons, School of Veterinary Medicine, Alabama Polytechnic Institute, Auburn, Ala.
- C. B. Krone, Box 189, LaGrange, Ill.

Veterinary Services

- Col. Seth C. Dildine, Chairman, Canal Winchester, Ohio.
- H. L. Foust, Department of Anatomy, Iowa State College, Ames, Iowa.
- W. T. Oglesby, Department of Veterinary Science, Louisiana State University, Baton Rouge 3, La.
- J. Traum, Department of Veterinary Science, University of California, Berkeley, Calif.
- E. A. Woelffer, College of Veterinary Medicine, University of Illinois, Urbana, Ill.

National Board of Veterinary Examiners

- W. R. Krill, Chairman, 2656 Tremont Rd., Columbus 8, Ohio.
- Chas. W. Bower, 3119 Stafford St., Topeka, Kan. W. L. Boyd, University Farm, St. Paul 8, Minn.
- R. R. Dykstra, Kansas State College, Manhat-
- R. A. Kelser, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa.
- I. D. Wilson, Virginia Polytechnic Institute, Blacksburg, Va.

Enforcement of Code of Ethics

- S. W. Haigler, Chairman, 7645 Delmar Blvd., St. Louis 5, Mo.
- R. A. Merrill, Clara City, Minn.
- R. C. Snyder, Walnut St., and Copley Rd., Upper Darby, Pa.

Joint Committee on Foods

- S. W. Haigler, Chairman, 7645 Delmar Blvd., St. Louis 5, Mo. (AAHA) (1952).
- J. G. Hardenbergh, Secretary, 600 S. Michigan Ave., Chicago 5, Ill. (AVMA) (1951).
- Louis A. Corwin, 136-21 Hillside Ave., Jamaica, L. I., N. Y. (AAHA) (1948).
- J. B. Engle, P. O. Box 432, Summit, N. J. (AVMA) (1949).
- A. E. Wight, 3730 18th St. N. W., Washington 9, D. C. (1950).

Sub-Committee on Veterinary Items National Formulary Committee (Ten-Year Appointment Terminating in 1949)

- H. D. Bergman, Chairman, Division of Veterinary Medicine, Iowa State College, Ames, Iowa.
- R. F. Bourne, Division of Veterinary Medicine, Colorado A. & M. College, Fort Collins, Colo.
- P. W. Burns, Division of Veterinary Science, Texas A. & M. College, College Station, Texas.
- C. F. Cairy, School of Veterinary Medicine, Michigan State College, East Lansing, Mich.

Awards (Ex-Officio)

- W. A. Hagan, Chairman, New York State Veterinary College, Cornell University, Ithaca, N. Y.
- H. D. Bergman, Division of Veterinary Medicine, Iowa State College, Ames, Iowa.
- T. Childs, Health of Animals Division, Department of Agriculture, Ottawa, Ont.
- W. R. Krill, College of Veterinary Medicine, The Ohio State University, Columbus 10,
- B. T. Simms, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C.

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- L. A. Gendreau, 67 Willington S., Sherbrooke, Quebec. (1952).
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- A. B. Wickware, 1031 Carling Ave., Ottawa, 1st Dist., Ont. (1952).

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- H. E. Kemper, Box 464, Albuquerque, N. Mex. (1951).
- R. E. Rebrassier, Veterinary Clinic, The Ohio State University, Columbus 10, Ohio. (1949).
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- C. C. Hastings, Chairman, Williamsville, III. (1948).
- A. H. Groth, Regional Laboratory, Animal Disease Research, Auburn, Ala. (1950).
- H. M. LeGard, 355 Main St. N., Weston, Ont. (1949).
- Jesse Sampson, College of Veterinary Medicine, University of Illinois, Urbana, Ill. (1952).
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Special Committees

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- R. S. MacKellar, Sr., 329 W. 12th St., New York 14, N. Y.
- J. R. Mohler, 1620 Hobart St., N.W., Washington 9, D. C.
- J. L. Tyler, 211 N. Washington Ave., Whittier, Calif.
- L. Van Es, 3335 W. St., Lincoln, Neb.

Nomenclature of Diseases

- H. C. H. Kernkamp, Chairman, Division of Veterinary Science, University Farm, St. Paul 8, Minn.
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- I. A. Merchant, Iowa State College, Ames, Iowa Carl Olson, Jr., College of Agriculture, University of Nebraska, Lincoln, Neb.
- Benj. Schwartz, Zoölogical Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C. (Consulting Member).

Food and Milk Hygiene

- H. E. Kingman, Jr., Chairman, 350 Walnut St. Elmhurst, Ill.
- G. H. Hopson, 165 Broadway, New York 6. N. Y.

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E. M. Lynn, 8052 Calumet Ave., Chicago 19, Ill.
C. H. Pals, 308 E. Howell Ave., Alexandria, Va.
James H. Steele, Chief, Veterinary Public Health Section, States Relations Division,
U. S. Public Health Service, Washington, D. C.

Diseases of Food-Producing Animals

- L. D. Frederick, Chairman, Reseach Laboratory, Swift and Co., Chicago, Ill.
- G. S. Harshfield, Veterinary Department, South Dakota State College, Brookings, S. Dak.
- E. M. Joneschild, 914 5th Ave., Helena, Mont.
- J. D. Ray, 1124 Harney St., Omaha, Neb.
- J. T. Schwab, Livestock Sanitation Division, sion, State Capitol, Madison, Wis.

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- E. R. Quortrup, Chairman, Patuxent Research Refuge, Bowie, Md.
- R. J. Kirk, Saskatchewan Fur Marketing Agency, Regina, Sask.
- A. M. McDermid, State Experimental Game and Fur Farm, Poynette, Wis.
- A. C. Secord, 1105-07 Yonge St., Toronto, Ont.
- S. G. Stephan, 2824 Vine St., Cincinnati 19, Ohio.

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- C. E. DeCamp, Post Rd. & Maple St., Scarsdale, N. Y.
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- W. T. Oglesby, Department of Veterinary Science, Louisiana State University, Baton Rouge 3, La.
- J. Traum, Department of Veterinary Science, University of California, Berkeley, Calif.
- E. A. Woelffer, College of Veterinary Medicine, University of Illinois, Urbana, Ill.

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- Chas. W. Bower, 3119 Stafford St., Topeka, Kan. W. L. Boyd, University Farm, St. Paul 8, Minn.
- R. R. Dykstra, Kansas State College, Manhat-
- R. A. Kelser, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa.
- I. D. Wilson, Virginia Polytechnic Institute, Blacksburg, Va.

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- R. A. Merrill, Clara City, Minn.
- R. C. Snyder, Walnut St., and Copley Rd., Upper Darby, Pa.

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- S. W. Haigler, Chairman, 7645 Delmar Blvd., St. Louis 5, Mo. (AAHA) (1952).
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- J. B. Engle, P. O. Box 432, Summit, N. J. (AVMA) (1949).
- A. E. Wight, 3730 18th St. N. W., Washington 9, D. C. (1950).

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- H. D. Bergman, Chairman, Division of Veterinary Medicine, Iowa State College, Ames, Iowa.
- R. F. Bourne, Division of Veterinary Medicine, Colorado A. & M. College, Fort Collins, Colo.
- P. W. Burns, Division of Veterinary Science, Texas A. & M. College, College Station, Texas.
- C. F. Cairy, School of Veterinary Medicine, Michigan State College, East Lansing, Mich.

Awards (Ex-Officio)

- W. A. Hagan, Chairman, New York State Veterinary College, Cornell University, Ithaca, N. Y.
- H. D. Bergman, Division of Veterinary Medicine, Iowa State College, Ames, Iowa.
- T. Childs, Health of Animals Division, Department of Agriculture, Ottawa, Ont.
- W. R. Krill, College of Veterinary Medicine, The Ohio State University, Columbus 10, Ohio.
- B. T. Simms, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C.

Twelfth International Veterinary Congress Prize (Ex-Officio)

- W. A. Hagan, Chairman, New York State Veterinary College, Cornell University, Ithaca, N. Y.
- L. M. Hurt, 203 Administration Bldg., Union Stock Yards, Los Angeles 11, Calif.
- W. R. Krill, College of Veterinary Medicine, The Ohio State University, Columbus 10, Ohio.
- Col. James A. McCallam, Veterinary Division, Office of the Surgeon General, U. S. Army, Washingon 25, D. C.
- B. T. Simms, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C.

Humane Act Award

- W. A. Young, Chairman, 157 W. Grand Ave., Chicago, Ill.
- R. J. Garbutt, 367 E. 62nd St., New York 21, N. Y.
- S. T. Michael, 2500 16th St., San Francisco 3, Calif.

Inter-American Veterinary Congress

- B. T. Simms, Chairman, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C.
- T. Childs, Health of Animals Division, Department of Agriculture, Ottawa, Ont.
- F. N. Camargo, Ajusco 2, Villa Obregon, Mexico City, Mexico.
- Col. J. A. McCallam, Veterinary Division, Office of the Surgeon General, U. S. Army, Washington 25, D. C.

And the foreign corresponding secretaries of the South American republics.

Research Council

- ANATOMY AND HISTOLOGY.—L. E. St. Clair, College of Veterinary Medicine, University of Illinois, Urbana, Ill. (1949).
- BACTERIOLOGY (IMMUNOLOGY AND BIOLOGIC THER-APY.)—L. C. Ferguson, 2456 Lexington Ave., Columbus 3, Ohio. (1950).
- BIOCHEMISTRY AND ANIMAL NUTRITION.—George H. Hart, Division of Animal Husbandry, University Farm, Davis, Calif. (1950).
- LARGE ANIMAL MEDICINE.—J. F. Bullard, Department of Veterinary Science, Purdue University, Lafayette, Ind. (1950).
- Large Animal Surgery.—W. F. Guard, College of Veterinary Medicine, The Ohio State University, Columbus, Ohio. (1948).

- PARASITOLOGY.—E. W. Price, Zoölogical Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C. (1948).
- PATHOLOGY.—L. M. Roderick, School of Veterinary Medicine, Kansas State College, Manhattan, Kan. (1950).
- PHYSIOLOGY AND PHARMACOLOGY.—H. H. Dukes, Secretary, New York State Veterinary College, Cornell University, Ithaca, N. Y. (1950).
- POULTRY PATHOLOGY.—C. A. Brandly, Department of Veterinary Science, University of Wisconsin, Madison, Wis. (1948).
- SMALL ANIMAL MEDICINE.—C. P. Zepp, Sr., 136 West 53rd St., New York, N. Y. (1949).
- SMALL ANIMAL SURGERY.—C. F. Schlotthauer, Division of Experimental Medicine, The Mayo Foundation, Rochester, Minn. (1949).
- VETERINARY HYGIENE.—Andrew L. MacNabb, Ontario Veterinary College, Guelph, Ont. (1949).
- VIRUS DISEASES.—R. A. Kelser, Vice-Chairman, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa. (1949).
- X-RAY.—M. A. Emmerson, Division of Veterinary Medicine, Iowa State College, Ames, Iowa. (1948).
- MEMBER-AT-LARGE.—Hadleigh Marsh, Agricultural Experiment Station, Bozeman, Mont. (1948).

Representatives

- Advisory Board, Horse and Mule Association of America.—T. A. Sigler, Greencastle, Ind. (annual assignment).
- AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—Ward Giltner, Public Health, Michigan State College, East Lansing, Mich. (annual assignment).
- ARMY MEDICAL LIBRARY, HONORARY CONSULTING BOARD.—J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill.
- INTER-ASSOCIATION COUNCIL OF ANIMAL DIS-EASE AND PRODUCTION.—R. C. Klussendorf, 600 S. Michigan Ave., Chicago 5, Ill.
- NATIONAL LIVESTOCK LOSS PREVENTION BOARD.— W. E. Logan, 204 Federal Bldg., Topeka, Kan.
- NATIONAL RESEARCH COUNCIL (Division of Biology and Agriculture.)—E. P. Johnson, Box 593, Blacksburg, Va.
- NATIONAL RESEARCH COUNCIL (Division of Medical Sciences).—H. D. Bergman, Iowa State College, Ames, Iowa. (1950).
- NATIONAL SOCIETY FOR MEDICAL RESEARCH.— J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill.
- UNITED STATES PHARMACOPEIAL CONVENTION. XII.—H. E. Moskey, Food and Drug Administration, Washington 25, D. C. (to serve until 1950).

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Program (Ex-Officio)*

This committee is composed of the chairmen and secretaries of the six sections with the executive secretary acting as the chairman.

*Pursuant to article XII, section 1, part 4 of the Administrative By-Laws, as amended at the seventy-eighth annual meeting.

Resident State Secretaries

- Alabama.—I. S. McAdory, Alabama Polytechnic Institute, Auburn.
- Arizona.—Robert E. McComb, Jr., Rt. 5, Box 514, Phoenix.
- Arkansas .- Hubert Shull, Texarkana.
- California.—G. W. Closson, 835 S. San Gabriel Blvd., San Gabriel.
- Colorado.—W. G. Blake, 2410-8th Ave., Greeley.
 Connecticut.—Edwin Laitinen, 993 N. Main St.,
 West Hartford.
- Delaware.—C. C. Palmer, Wolf Hall, University of Delaware, Newark.
- District of Columbia.—Lawrence O. Mott, Animal Disease Station, Department of Agriculture, Beltsville, Md.
- Florida.—D. A. Sanders, Agricultural Experiment Station, University of Florida, Gainesville.
- Georgia .- B. E. Carlisle, Camilla.
- Idaho.—A. P. Schneider, 108 Capitol Bldg., Boise.
- Illinois.—C. D. Van Houweling, 45 E. Ohio St., Chicago, Ill.
- Indiana.—Frank R. Booth, Rt. 5, E. Jackson Blvd., Elkhart.
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